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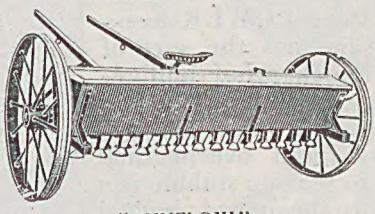

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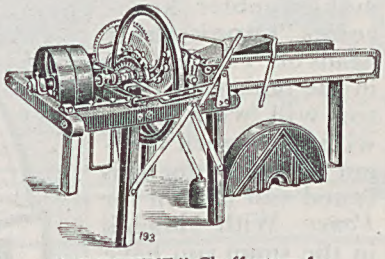

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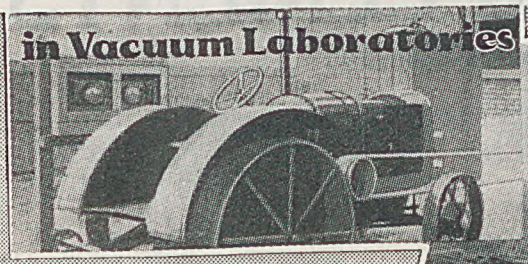

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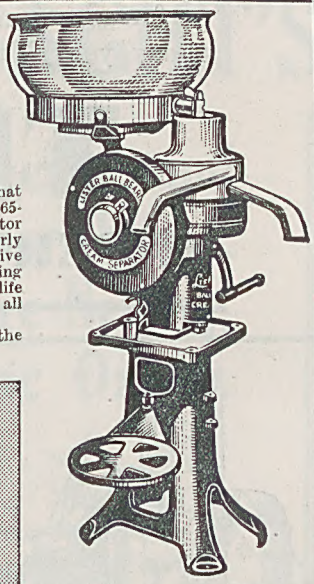

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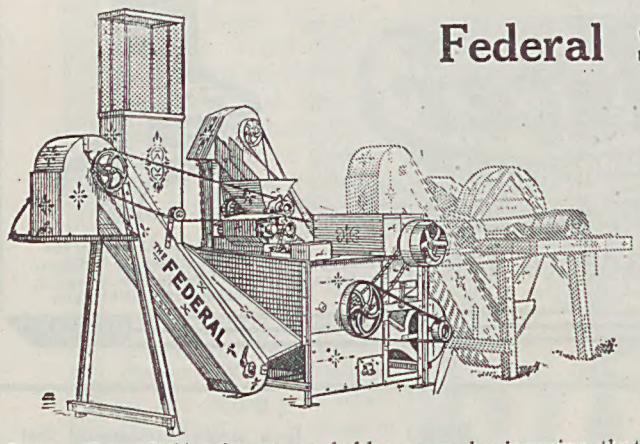

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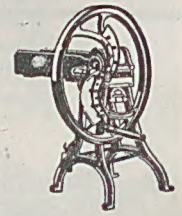

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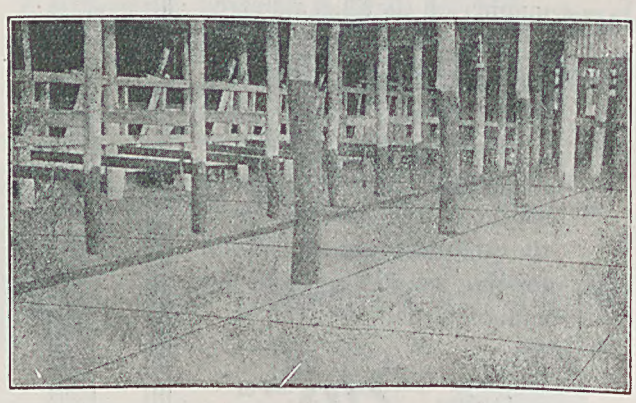

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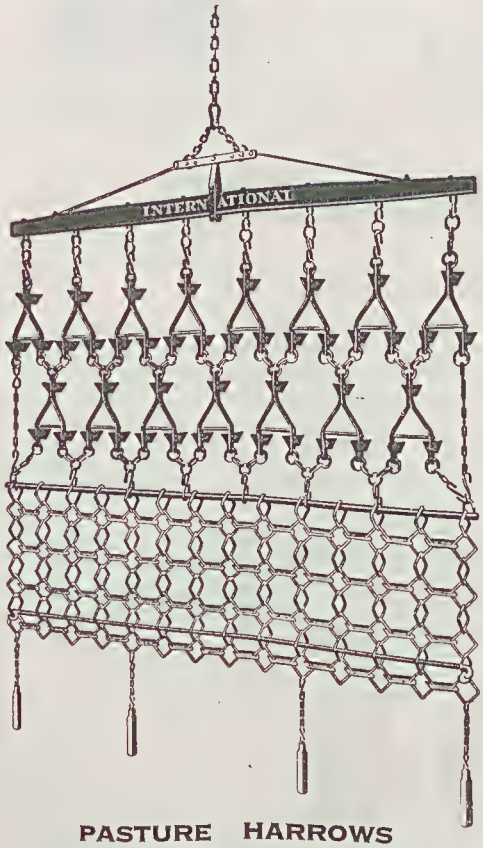

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The Journal of the DEPARTMENT of AGRICULTURE of VICTORIA

Species in Irrigated Pasture

Controlling Factors

By A. Morgan, B.Agr.Sc.

THE relative annual productivity, and the seasonal distribution of the yield of an irrigated pasture beyond its fourth or fifth season, and in which perennial rye-grass, cocksfoot, white clover, and subterranean clover are the major species, is determined by the average proportion of each of these species present.

The factors which determine these average proportions in general are—watering and manurial treatment, grazing methods, season, the class of stock de-pastured, soil, and aspect.

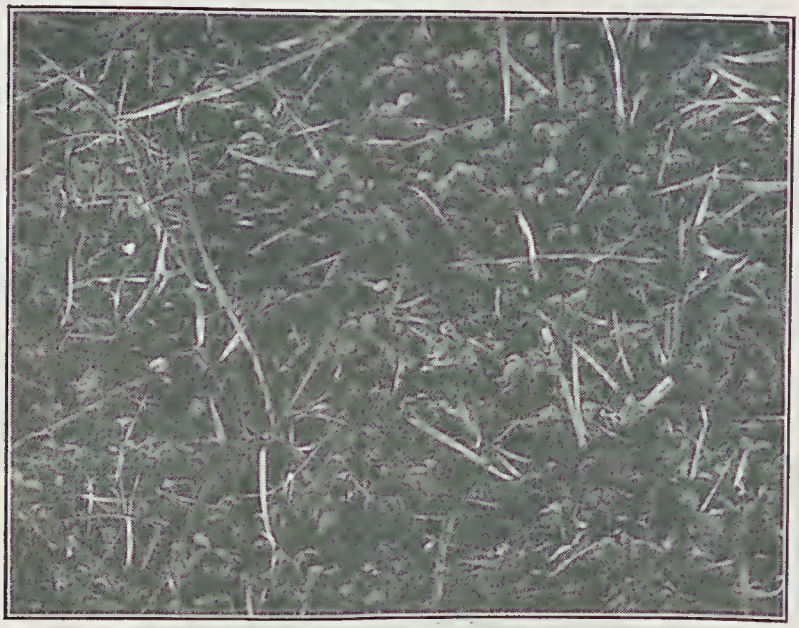
The use of irrigation water implies an insufficiency of natural summer rainfall, and is an attempt to remedy that deficiency. Where this deficiency is not made up to the extent of producing soil-moisture conditions similar to those which occur in the natural home of the pasture plants, total failure of the pasture does not necessarily result, but there is a tendency for winter-growing annual clovers, annual grasses, and weeds to become the dominant elements in the sward.

The degree of dominance which these inferior plants can assume is largely governed by the extent of summer soil-moisture deficiency, caused by insufficient or infrequent watering.

Watering Treatment.

Experiments at the Werribee Research Farm indicate that 24 inches of irrigation water per acre per annum, in addition to the 19 inches of average annual rainfall, is the minimum amount which should be given for consistently good results. Of the 19 inches rainfall, about 10 inches fall in the winter months, so that irrigation of this amount is equivalent to raising the summer rainfall to about 33 inches. During the hot summer months soil-moisture is quickly dissipated under the combined influences of evaporation and transpiration, and it logically follows that irrigations during this period must be frequent, if the amount of soil-moisture best suited for quick growth is to be maintained. The Werribee experiments indicate that six waterings, judiciously

Portion of the irrigated pasture showing clover dominance.



A well-balanced pasture, the result of frequent watering and liberal manuring (winter growth).

distributed over the season, are, on the average, the minimum consistent with the maintenance of a satisfactory proportion of each species in the herbage, and at the same time the yield is high. In practice, if the ground does not absorb water readily, ten to twelve waterings per season will be found most generally suitable where special methods are not used to ensure a good penetration at each watering. Where less than six waterings per season are given, even though they are heavy waterings, and distributed to the best possible advantage throughout the season, the balance between the summer-growing perennial white clover and the annual winter-growing subterranean clover is upset in favour of the subterranean clover. The moisture shortage in most seasons becomes so acute in the summer period that the white clover is restricted in its sward-forming ability, and small patches of bare ground appear, which are usually occupied by subterranean clover if four or five waterings are given. If three or less waterings are given annual grasses such as "winter-grass" (*Poa annua*. L.), "umbrella" or "love" grass (*Eragrostis* sp.), annual legumes such as "trefoil" or *Burr Medick* (*Medicago denticulata*), cluster clover (*Trifolium glomeratum*), hop clover (*Trifolium procumbens*), and suckling clover (*Trifolium dubium*), and weeds such as sowthistle, creeping mallow, hogweed, &c., become prominent. While on a pasture receiving six heavy waterings, the average proportion of white clover to subterranean clover under Werribee conditions, is about 6 to 1; on a pasture similarly seeded, but receiving only five waterings, the ratio is only $2\frac{1}{2}$ to 1. With only three waterings the proportions are 1 to 1. Had the pasture been sown with subterranean clover exclusively, two waterings, one in spring and one in autumn would have been sufficient, under most conditions, to promote a dense growth of subterranean clover, and thus to hinder the entry of the annual grasses and weeds previously mentioned, but where only 1 lb. of subterranean clover seed is included in the seeding mixture, it does not at first, under conditions of infrequent watering, occupy the ground to the exclusion of inferior species.

As far as the grasses are concerned, there would appear to be little change in the proportions present, whether waterings are frequent or infrequent, and a good balance of cocksfoot and rye-grass may be maintained except where waterings are very heavy in addition to being frequent. Under these last-named conditions, cocksfoot begins to be replaced by rye-grass to a noticeable extent. Moderately heavy waterings of about 4 inches are particularly desirable during hot, dry periods, and if these are obtained by two waterings in rapid succession, the number of waterings necessary at this period may be reduced—a point of great practical importance in those districts where water is obtainable only at fairly long intervals, according to a set schedule.

The importance of all these factors is evident from a consideration of the following points:—

(1) White clover is the heaviest yielding summer-growing species under grazing conditions, and anything detrimental to its growth is reflected in a considerable reduction in carrying capacity.

(2) Where white clover is in too great a proportion to the rest of the herbage,

there is a danger of "bloat," and the ration becomes too narrow for heavy milking cows.

Manurial Treatment.

The second main factor influencing the average proportion of each species present is the manurial treatment. By proper attention to watering it is ensured that all the plants will live, and that the competition of any one species will not become so strong as to make it dominant, and either considerably reduce the summer growth, as with subterranean clover, or make the ration too narrow for stock, as with white clover. Our soils are usually so deficient in phosphoric acid, however, that *sustained* high production is not obtained unless at least 2 cwt. superphosphate per acre per annum is applied to the pasture. The legumes respond so actively to phosphate that the proportions of the different species, compared with those normally occurring on unmanured land, are greatly changed. Thus on unmanured plots at Werribee the clover and grasses were present in the proportions of about 1½ to 1 with 24 inches of irrigation per season, while the application of 2 cwt. of superphosphate changed the proportions to 3 to 1. So that while all the species present showed increased vigour as a result of manuring, the balance was upset in favour of the clovers. Nitrogenous manures (nitrate of soda and ammonium sulphate), even with

Pasture treated with 2-cwt. super. per acre. Note increased growth of clovers.

Unmanured pasture, showing flatweed and only small proportion of clover.

an application of 1 cwt. per acre, also strongly influenced the proportions of the different plants, but in the opposite direction, and in a somewhat different manner. The productivity of the grasses is increased, and that of the clovers is decreased with the use of nitrate of soda or ammonium sulphate, so that the proportion of clovers to grasses, originally 1½ to 1 on unmanured plots, was changed to 1 to 1. At the same time the relative proportions of cocksfoot and perennial rye-grass were changed from 5½ to 1 to 4½ to 1.

The application of lime with 2 cwt. of super. per acre, while not changing the proportions of grass and clover as compared with the unmanured pasture, considerably increased the proportion of rye-grass to cocksfoot. It is obvious that the manurial methods employed have a big influence on the various species in a pasture mixture, and the fact that such relatively small applications of fertilizers produce types of pasturage which are

so widely different, emphasizes the delicacy of the adjustment of soil conditions which are favorable to any one type. While productivity remains of prime importance, however, the liberal use of superphosphate must be regarded as the only economically sound manurial practice, even if a high degree of clover dominance results from its use.

Grazing methods may be so designed as to correct or intensify this feature. We may for the time being consider two methods of grazing; one in which stock are allowed to wander at will over relatively large areas, free to graze closely any particular species they may fancy, and to reject the remainder. The food supply not being limited, they may eat only the best. The result is that the paddock develops a series of short patches alternating with rank patches, in which the taller growing grasses are dominant. These are distinct from the small rank patches which develop owing to the manurial effect of animal droppings. Whether these short and rank patches persist year after year on lightly-grazed pastures, we have as yet no definite information, but observation has shown that the clovers, except alsike, are in many cases absent entirely from the rank patches, while on the short patches a good mixture of grasses and clovers is usually found. Where grazing of this type is carried out persistently, the beneficial effects of proper watering and manuring on botanical composition may be nullified to a large extent, while a wastage of food is unavoidable. Also as sunlight does not reach the soil sufficiently through the matted, coarse herbage, a souring of the ground results. For these and many other reasons the practice of light continuous stocking is to be discouraged. For the past three years at Werribee a test of controlled grazing has been made on a field sub-divided into ten small paddocks, around which sheep have been regularly moved. The result has been a sustained high carrying-capacity of the area, while the botanical composition of the pasture has been uniformly good. This field was properly manured and watered, and in addition to the above features provided a good example of the benefits of controlled grazing in the control of weeds. At the bottom of the field, where drainage was not all that might be desired, colonies of rushes were growing at the beginning of the test, but now are almost non-existent.

On the other hand, the over-grazing of an area produces changes in the proportions of the various species, which are as undesirable as those brought about by insufficient grazing. The aim of the controlled grazing is to force the stock to graze as evenly as possible over the area at any one grazing, and to force them to eat off the species for which they do not show decided preference, as well as those which they particularly like. Where the grazing is excessive, the more palatable species begin to show the effects of this preference, and may eventually disappear, leaving bare patches which are quickly filled up by less palatable species, or by inferior grasses or weeds. Cases have occurred in northern settlements where the encroachment of umbrella grass (*Eragrostis*) was traceable to this cause.

The time elapsing between the shutting up of a paddock in winter, and the first spring grazing, also may have an important temporary effect, and may be used with success to correct the composition of a pasture which

Pasture treated with 2-cwt. super. and nitrogenous fertilizer.

[Note the increased growth of grasses due to the use of nitrogenous manure.]

is beginning to show too much clover. The grasses may be allowed to approach to the meadow-hay stage before stocking the paddock; the development of white clover is thus held back, and a better balance of grass and clover obtained for a varying period during the following summer.

The influence of season in determining the botanical composition is usually best seen in regard to the relative amount of white clover and subterranean clover in a pasture on which the watering treatment is not quite adequate for the requirements of white clover. The restriction placed on the satisfactory development of white clover by such insufficient summer watering leaves the way open for a strong development of subterranean clover in those seasons in which an early autumn break in the weather occurs. Without the influence of such timely rains the competition of the white clover may be sufficient to maintain dominance over the subterranean clover. A similar disturbance of the proportions of grasses to clovers may be the result of particularly favorable conditions for growth in early spring.

The influence of soil alone under irrigation conditions is particularly hard to dissociate from the influences of watering, manurial and grazing treatments, but a few of the major effects are worthy of mention. The operation of grading, usually necessary to ensure the quick, economical watering for which the "border system" is designed, necessitates the removal of the surface soil from some small banks in practically every field, and the depth of surface soil may be considerably reduced by this method. Where heavy clays underlie the surface soil at no great depth, the penetration of irrigation water may be adversely affected on these patches, and the conditions may be unsuitable for the luxuriant growth of white clover. Actually, this condition is one of insufficient watering, but since it is primarily due to soil levels, it is convenient to mention it in connexion with soil. As previously mentioned, subterranean clover may be prominent on such patches, but if the penetration is not too great and a small amount of strawberry clover has been included in the seeding mixture, it will usually be found that this species will be the dominant clover. Conversely, strawberry clover will be conspicuous in depressions which do not allow a quick get-away of surplus irrigation water. In northern settlements the depressions may be occupied by such water-loving species as *Paspalum dilatatum* and *Paspalum distichum*, plants which, while not recommended under normal conditions, nevertheless serve a useful purpose in conjunction with strawberry clover in waterlogged positions unsuitable for the more valuable species.

It must be borne in mind that these statements are all subject to the qualifications of "strain," and if certain strains of grasses and clovers are sown the results obtained with the watering, manuring, and grazing methods touched on may be vastly different. It has been assumed that, in the case of the ryegrass and cocksfoot, true perennial types have been sown, and that the white clover sown was either commercial white Dutch or New Zealand wild white. Short-lived strains of the grasses may persist in the pasture only to the extent that they are allowed to re-seed themselves. If they are allowed to re-seed freely they tend to become the dominant plants. Clovers such as English wild white do not respond sufficiently strongly under Victorian conditions to watering and manuring to produce the marked differences of botanical composition mentioned, and yet some particularly vigorous strains of white clover and strawberry clover are developing and spreading under our local conditions, and in some cases already have produced changes more obvious than are normally obtained by standard watering and manurial treatment. The exploration of the complex of factors which operate on the composition of pasture is of recent origin, and to those who can cite cases in contradiction of the principles mentioned, it can only be pointed out that they are general in application, and must be modified to suit particular local conditions.

Root Stocks of Citrus Trees

By J. L. Provan, B.Agr.Sc., Horticultural Research Officer.

THE importance of the careful selection of buds in citrus-tree propagation has been emphasized previously, and their influence on yield and quality of the subsequent crop noted. Among the factors affecting the crop were soil, climate, cultural treatment, and root-stock. In this article it is proposed briefly to review some of the data on the root-stock problem and record several observations made on Victorian citriculture.

Fig. 1. Maltese Blood Orange on rough lemon root-stock at Swan Hill (11 years old).

Before proceeding with the discussion of the root-stock and its relationship with the environment and the remainder of the tree, it will be advisable for the benefit of those who are unfamiliar with this operation to describe briefly the propagation of an orange tree. Orange trees, like roses and orchard trees generally, are propagated by budding. In the case of orange trees, seeds of the desired root-stock are obtained and planted in a seed-bed. Later they are transferred to the nursery, and when they have grown sufficiently, buds from a Washington Navel orange tree, for example, are obtained, and the small tree is budded. The bud grows, and the remainder of the root-stock above the inserted bud is removed. We now have the whole of the root-system and portion of the trunk differing botanically from the remainder of the tree, which is Washington Navel orange. The root-system is known as the root-stock, and the remainder or top portion of the tree is called the scion.

The root-stock and scion are so closely dependent on each other that differences in the physiological functions of either must have a pronounced effect on the tree as a whole. One of the functions of the root-system is to absorb the mineral matter from the soil in the form of a weak solution, and conduct it to the branches, which in turn transfer it to the leaves.

In the leaves this raw food material is manufactured by the aid of sunlight, carbon dioxide, and the green colouring matter into food material for the plant. Some is stored in the branches, trunk, and root-system; but the remainder is used in growth and replenishment of wasted tissue. The root system is solely dependent on the leafy top of the tree for its elaborated food.

With some root-stock and scion relationships there is a lack of harmony in these physiological processes, and the tree fails to grow normally. This feature is known as "incompatability," and is well illustrated by at least two examples in citrus culture. One of these is the propagation of the Satsuma orange on sour (or Seville) orange root-stock, and the other that of Eureka lemon on the Trifoliate orange stock. In both these instances the resultant trees are unsatisfactory.

Another example of incompatability between root-stock and scion has been observed in the Mildura and Swan Hill districts. In this case the scion was the Maltese blood orange, and the root-stock was rough lemon (Citronelle). This variety of blood orange produces a small stunted tree on the rough lemon root. The root system, particularly in the case of the Mildura trees, was vigorous and healthy, and constantly produced large, vigorous shoots just below the union. Fig. 1 gives a general view of an eleven-years old Maltese blood orange on rough-lemon root-stock growing near Swan Hill, while Fig. 2 shows a closer view of the trunk and union. In the Mildura instance the soil was typical red Mallee sand, and in Swan Hill a heavy, grey, alluvial silt. These two soils represent almost the extremes in Victorian citriculture, and yet on each type of soil the trees under observation behaved in a similar manner.

Fig. 3. Seed-type orange tree on P. trifoliata root-stock at Swan Hill (35 years old).

Fig. 2. Same tree as in Fig. 1, showing trunk and union.
(The coin shown at foot of tree is $1\frac{1}{8}$" in diameter.)

The essentials of a good root-stock are that it must be compatible with the scion, disease resistant, and long lived, and must not have any detrimental effects on the yield and quality or the early dropping or splitting of the fruit. It must suit the climate and be adaptable to soil conditions, and finally it must be available in sufficient quantities, and be easily raised and propagated.

The question of compatability is a very important one, because it often influences the growth, productivity, and longevity of the tree. While lemons propagated on Trifoliate stock are severely dwarfed and oranges are slightly dwarfed, mandarins on this root-stock grow very well, and bear heavy crops of good quality fruit. Nevertheless, there is not perfect compatability even between the mandarin and the Trifoliate orange, because the root-stock just below the union strongly outgrows the scion. This is also the case with the common (seed types) of oranges when grown on the Trifoliate orange root-stock. Fig. 3 shows a seed type of orange, about 35 years old, growing on the Trifoliate root-stock, and in Fig. 4 the overgrowth of the root-stock of this tree below the union can be clearly seen.

The most perfect compatability exists when varieties in the same species are propagated together, for example, when the Valencia Late orange is budded on to the seedling sweet

Fig. 4. The same tree as in Fig. 3, showing union and overgrowth of root-stock.
(The coin is 1⅛″ in diameter.)

orange root-stock. This results in a perfect union between stock and scion and a healthy long-lived tree which produces an abundance of good quality fruit. Observations in several citrus districts have shown clearly that the sweet orange is the best root-stock for the Late Valencia. Both the sour orange and sweet orange are also excellent stocks for the Washington Navel, with the preference in favour of the sweet orange stock, except where drainage is faulty. Where oranges are being grown without irrigation, and where there is a deficiency of soil moisture at certain periods of the year, the rough lemon root-stock must be considered as the most desirable. This is on account of the vigorous root system it possesses and its ability to withstand droughty conditions. For this reason, it is used almost exclusively in the Wangaratta district where citrus is grown without irrigation. The rough lemon stock on our loamy soils, under irrigation conditions, has proved to be a vigorous grower during its early years, but unfortunately it is short-lived, and begins to deteriorate from fifteen years of age onwards according to the soil conditions. In some favoured localities, where the drainage is better, it is surviving a little longer, and where drainage is poor, it quickly shows signs of debilitation. Under such circumstances, the sour orange stock would give much better results, as it can withstand these unfavorable soil conditions. Another advantage of the sour orange stock is its resistance to collar rot and root rot.

Many growers are under the impression that the sour orange root-stock is not susceptible to the collar rot fungus. This is not so, and the most that can be claimed for this stock is that it possesses more resistance to attacks of this fungus than most varieties. This resistance varies, and is influenced by the susceptibility or otherwise of the scion worked upon it. Hence lemons and Washington Navel oranges on sour orange stocks show a greater susceptibility to collar rot than does the Valencia Late orange on the same stock. The majority of orange and lemon trees in Victoria are either worked too near the soil surface or are planted too deeply in the grove. Deep planting favours collar rot development, especially in lemon trees. It is often noticed, however, that, although the trunk is affected by collar rot, this infection occurs frequently above the union, and hence the root-stock cannot be said to be susceptible. This phenomenon has been observed also with lemons worked on sweet orange stock. The susceptible lemon trunk frequently will be infected, while the sweet orange stock often remains healthy. In the past, in Victoria, when observations on the relationship of disease and root-stocks have been made, this aspect has not been given sufficient attention, and hence some confusion exists in the minds of growers regarding this problem. Washington Navel oranges growing on sour orange stocks in the Irymple (Mildura) district have been observed to be affected by root rot, i.e., infection below the union of scion and root-stock.

In a stock experiment in South Australia, Quinn(4) found that the root-stock influenced the quality of the fruit produced by the scion. Thompson's Improved Navel orange when worked on rough lemon stock was 16 per cent. lower in acidity than when worked on sweet orange stock. This stock also affected the maturity of the fruit, and it was possible to commence picking two to four weeks earlier from trees on rough lemon root-stocks. Oranges propagated on rough lemon stocks

have a thicker rind and an inferior quality than when propagated on sweet or sour orange stocks. Observations have shown that this effect occurs in South Africa also, where the rough lemon stock is widely used. Some workers state that this tendency to produce inferior quality fruit is only a passing phase, occurring during the vigorous growth of the young tree, but disappearing as the tree ages. The tendency to produce inferior quality fruit when young has been noticed in Victoria, where young Valencia Late orange trees on rough lemon stock have yielded fruit of poor appearance and decidedly low in total soluble solids (principally sugars), and with an acidity approximately normal. In one analysis made on mature fruit from a nine-years' old Valencia Late orange tree on rough lemon stock, the Brix reading (total soluble solids) was only 8.73°, and the acidity was 1.12 per cent. Good quality Valencia Late oranges, picked the same day, from the same locality, but from a 25-years' old tree on sour orange stock, showed a Brix reading of 11.72° and an acidity of 0.94 per cent.

When visiting many of the citrus groves of this State one notices the variability in size of the trees. Apart from differences due to bud selection, much of this variability is caused by the root-stock. In the past some propagators have not been strict enough in culling out the poor stocks in the seed-beds and nursery rows, with the result that inferior trees have been planted in many of our groves. Webber, who is investigating the root-stock problem in America, found that much of this variability was due to the presence of "rogues" or variants in the nursery. In the case of sour and sweet orange seedlings, he found that these probably would amount to from 15 to 25 per cent. of the total number of seedlings produced. Some would be more vigorous than the average, while others would be dwarfed. If these seedlings are ultimately budded, and the young trees planted in the grove, it can be expected that many of the trees will be unprofitable and seriously reduce the returns per acre. Such variants can be eliminated only by careful selection in the nursery rows where their variable characters can be readily distinguished. Unfortunately, growers have no means of preventing these trees from finding their way into the grove, and must rely on the nurserymen to supply them with good trees.

For the production of uniform citrus trees Webber(3) has given a number of definite recommendations. He advises a thorough survey of the sweet and sour orange trees used as a source of seed supply for nursery root-stock purposes, the isolation of the best strain in each variety, and its propagation and distribution to nurserymen. From such trees nurserymen would then be able to collect the fruit, extract the seeds, and raise seedlings which would be as uniform as is commercially possible. Hatton(2) mentions that such a selection is actually practised in the Aegean Islands an near Milazzo in Sicily, where isolated areas are devoted to the raising of sour orange seedlings for root-stock purposes.

Severe culling in the seed-beds and nursery rows would still be necessary to eliminate variants, which are bound to occur even in the selected trees. The standardization of the citrus tree would be completed by budding such uniform root-stocks with selected buds of the desired variety. In such a selection of root-stocks as Webber recommends above, it may be found that certain strains of sweet and sour orange will suit one variety of fruit and not be favorable to another; for instance, the Washington Navel when worked on one strain of sour orange root-stock may give better results than when the Valencia Late orange is budded to the same strain.

For some years many Californian growers have been of the opinion that the sour orange stock was responsible for the early decline of citrus trees, but Halma and Wilder(1) in a recent detailed survey of eleven representative lemon groves in the Upland district of California found no evidence to support the belief that tree decline is due to sour orange stock. They found poor and excellent trees of twenty years of age and older on sweet and sour orange and grape-fruit stocks. These workers consider that the variety or strain of lemon undoubtedly is a very important factor in the early decline of trees. As an example, they quote the instance of the Villafranca lemon which was found in excellent condition regardless of the root-stock variety.

For plantations on sand-hill country where drainage is perfect, the sweet orange stock promises to be the most desirable, but in other situations preference should be given to the sour orange stock on account of its hardier root-system.

Some growers in the Goulburn Valley recently have tried the Trifoliate orange stock for oranges and lemons. Lemons will be decidedly dwarfed on this stock, and under the climatic conditions in which they are planted will fail to produce commercial trees. The Trifoliate stock is more suited to the cooler

parts of the State and to heavier and moister soil conditions. It is advisable when using this stock to plant the trees at closer intervals in order to compensate for the dwarfing effect.

Orange trees worked on Trifoliate orange stock are very precocious and heavy producers, and the fruit is of good quality with a tendency to ripen early. These heavy crops while the tree is young are no doubt partly responsible for the dwarfed character of the tree. This Trifoliate orange is a variable stock, and the results obtained thus far have been rather confusing. There appears to be much room for improvement in this stock before it can be recommended for commercial citrus-growing.

For some varieties of mandarins the rough lemon has been distinctly incompatible. The Early Imperial mandarin when worked on this stock in the Mildura district has proved a failure. Fig. 5 shows the typical union of Early Imperial mandarin on rough lemon stock with a very large outgrowth of the root-stock compared with the scion diameter. This outgrowth has been so severe in many instances that the growth has formed a thick collar folding over the union and surrounding the scion in this region. Such an uncongeniality between stock and scion must be considered detrimental to the health and productivity of the tree. In one instance the trees have grown very vigorously and borne heavy crops, and now at the age of about eighteen years are gradually dying out. This dying out of the trees, however, may not be entirely due to stock influence, because high concentrations of alkali are thought to exist on this grove, and this aspect will receive attention in the near future. The other instance was that of eight-years' old trees which had failed to bear normal crops. These trees have now been successfully re-worked to Valencia Late oranges.

Recently root-stock trials have been made in New South Wales with the Cleopatra mandarin, which was imported from America. This stock is cold resistant, and even withstood temperatures as low as 22° F. (i.e., 10° of frost) in Florida during 1924. It is a very vigorous stock, comparable with the rough lemon in this respect, and mandarins do particularly well when propagated on it. It is said to be resistant to collar rot and as hardy as the sour orange stock. This stock has not yet been tried in Victoria.

It must be admitted that the problem of root-stocks for citrus trees in Victoria requires

Fig. 5. Union of scion and stock.—Early Imperial Mandarin worked on rough lemon stock. Note the difference in diameter of scion and stock.

a systematic study. Large numbers of citrus trees in this State are dying out, and while the death of a small proportion of these may be due to other reasons, by far the majority is due to a poor relationship between scion, stock, and soil conditions. The necessity for new plantings is not at the present an urgent problem, but no doubt in the future planting will recommence, and if a repetition of the present conditions is to be avoided then the problem of root-stocks should be investigated at an early date.

Unfortunately, in a problem such as this we cannot rely on the experience in other countries, because our soils and climates vary from those in other parts of the world. In addition, the solution of the problem will take many years, and therefore an early start is essential.

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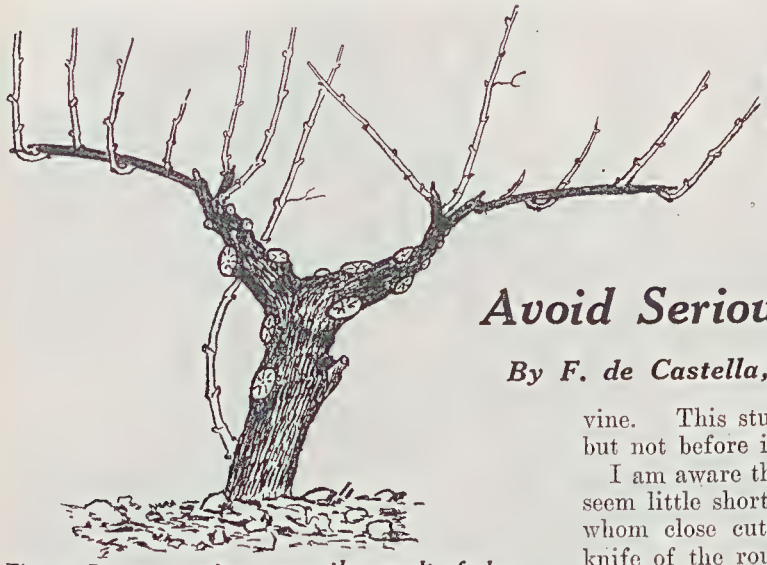


Fig. 1. Severe pruning scars, the result of close "shortening back" in previous seasons.

Pruning the Vine

Avoid Serious Wounds

By F. de Castella, Viticulturist.

PRUNING of the vine is a necessary evil; it lessens vitality, reduces capacity, and shortens life, but in return it ensures better fruit by reducing the number of bunches. It also tends to counter alternation of cropping, ensuring in large measure a regular annual yield, and, in addition, gives the vine a definite utilitarian shape, without which tillage and other operations would scarcely be possible. To work the vine economically it must be pruned.

The more judicious the pruning, the more its application respects the susceptibilities of the vine, the less injury will be caused. Pruning inflicts wounds, and it is mainly by the mutilation resulting from their incomplete healing that injury is done to the vine. The more severe these wounds, the greater the diameter of the members that are severed, and the more closely they are cut off, the more serious the resulting injury will be. It is not sufficiently realized that ill-considered lopping of large arms, flush with the crown or trunk, so as to leave gaping wounds that cannot heal, is a frequent source of premature senility and decrepitude in vineyards that should still be robust and productive.

Large sections should be avoided in the greatest measure possible. When they are inevitable they must not be executed flush with crown or stem, but at a certain distance from the base, allowing a stub of the amputated limb to remain, for a year or two, on the vine. This stub is ultimately sawn off flush, but not before it is quite dead.

I am aware that such a recommendation will seem little short of heresy to orchardists, with whom close cutting, and the paring with a knife of the rough surface left by the saw, is the recognized practice. Such is, however, altogether unsuited to the vine, which, owing to its spongy wood, numerous vessels, and limited bast region, does not heal its wounds well.

How the Vine Heals its Wounds.

The vine does not heal its wounds like the apple or pear tree. It even does not heal so well as the apricot, a tree that resents important amputations more than most fruit trees.

Fig. 2. Section through stock of Fig. 1. The shaded areas represent dead wood resulting from scars.

When a mature branch of any woody plant is cut off, the vessels and tracheids are soon plugged by tyloses and gumming, this blocking process being a normal physiological response. The wood dies back from the cut surface for a distance depending on the nature of the plant and the size of the wound. With most fruit trees the wound is gradually covered by the extension of new tissue, deriving from the cambium, near the periphery of the section. This process is so active in the apple, for example, that a wound made by the amputation of quite a large limb is so completely grown over, in the course of a few years, as to leave a scarcely noticeable scar. The cleaner the cut the more thorough the covering process, and the neater the final scar.

With the vine the blocking mechanism is similar, but in the area surrounding the section, new tissues form so sparingly that the cut is never covered entirely, and if it be an important one, it is scarcely covered at all (see Fig 3).

Fig. 3. Vine 30 years old.—Large pruning sections, cut hard back, do not heal.

The dead wood shrinks somewhat, and the tissues around it thicken into a pad or cushion, but do not overgrow the cut.

The vessels of the vine are large, and its wood is soft and spongy, features that cause it to die back over a greater length than the harder wood of fruit trees. There is much variation in the reaction to pruning of different vine sorts. Those with soft spongy wood, like Sultana, are more susceptible than Muscat Gordo Blanco with its harder wood and twisted fibres. More susceptible still are several direct producers, especially when grafted on

Fig. 4. Vine 30 years old.—Note "pad" around dead stub (right).

certain stocks. These are liable to a disease known as tylosis, due to abnormal development of tyloses, upsetting circulation and causing decline and death.

With vine pruning, within a few months of its execution, *from every cut that is made, a wedge of dead wood tapers downwards into the stem or crown.* The stouter the branch that is severed the larger the scar, and the deeper the dead wedge will penetrate into the living tissues. The repetition of important cuts results in the presence of so much dead wood as to leave but little living tissue in the much mutilated crown, a point being ultimately reached where sap circulation becomes difficult, and the vital processes of growth and fruit production are seriously hindered. Evidence of the obstacle is afforded by the tendency of many old vines with mutilated crowns to sprout vigorous water-shoots from below the obstruction, as shown in Fig. 1. Advantage is taken of canes such as these to re-form or rejuvenate worn-out vines by building a new stem and crown.

Fig. 5. Vine 30 years old.—Main stem split and partly dead as a result of severe pruning wounds on crown.

Where several dead wedges are close together, they may coalesce to form an area in which the sap no longer circulates. Beneath this, an important strip of the main stem may die out altogether (see Fig. 5). Half dead main stems are, indeed, a feature among the decrepit vines in very old vineyards, striking testimony of indiscriminate hacking and sawing, and of the gaping wounds too often inflicted on vines by unskilled pruners.

Avoidance of close cutting considerably reduces these sap circulation disorders. If the discarded arm or branch be severed, at a few inches from its insertion on crown or stem, so as to leave a stub, a much better wound will result. The stub does not remain to permanently disfigure the vine. It is removed the next season (or perhaps the following one), when quite dead, being sawn off flush with the pad of healthy tissue that has formed around its base.

Blocking and dying back of the wood take place in the usual way whether the arm be stubbed or cut close. In either case, the die back commences at the section, extending backwards to much the same length. If stubbed, much of the die back will be in the stub, and the dead wedge, ultimately remaining in the crown, will be correspondingly smaller than if sawn off flush in the first place.

Dezeimeris Pruning.

Seized with the importance of these facts, Reinhold Dezeimeris, a former vine authority in the Bordeaux district of France, published in 1887 a memoir, in which he recommended a new pruning method that has since been known by his name. His proposal was not a new method of pruning and training the vine, as it was applicable to any of the styles of pruning hitherto followed, but a new way of effecting the cuts made when the vine is pruned.

His attention to the subject was first drawn by the dying off of some Herbemont vines,

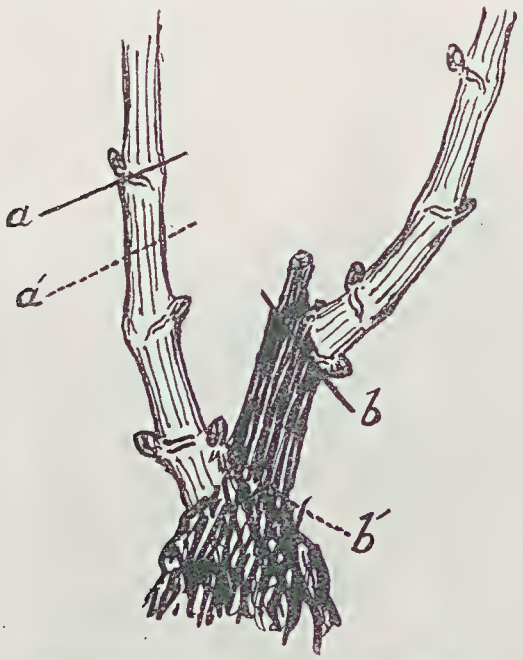


Fig. 6. Previous season's spur of short pruned vines.

[*a* and *b*, pruning sections according to Dezeimeris' method; *a'* and *b'*, sections according to usual pruning practice.]

which investigation showed to be due to pruning mutilations, to which this direct producer, which is probably an *Aestivalis* x *Cinerea* x *Vinifera* hybrid, seems peculiarly sensitive. He recalls how M. Baurac, a Perigord vine-grower, some years previously, had blamed the secateur for the appearance of phylloxera. This new and, to him, accursed tool, permitted flush cutting such as was not possible with the ancient pruning knife or hook, which necessitated an oblique cut, leaving more or less of a stub on the vine crown. The flush sections made by the secateur caused dying off and rotting of the vine crown. The extravagance of the charge prevented due notice being taken at the time of the element of truth it contained. The dying Herbemonts drew attention to Baurac's remarks. Dezeimeris, suspecting injury of similar nature, if less severe, to *Vinifera* sorts, essayed a return to the obsolete pruning hook. The result was satisfactory, despite inconvenience, and the objections raised by his pruners. He ultimately found that, if the secateur be judiciously used, no more injury results to the vine than with the pruning hook.

His method is, briefly, as follows:—

(1) Concerning the current year's wood.—It is well to follow the practice already general in some localities, and indicated in many text-books, of severing the cane by cutting through the eye, next above the upper one retained (see *a*, Fig. 6).

(2) Concerning the older wood. (This is really the essential point of the innovation).—This must not be cut off flush, during the season, when it ceases to be of use; but a portion of the wood should be retained, up to the first node, through the upper part of which the cut is effected in such a way as to preserve the internal partition within it (see *b*, Fig. 6). The stub thus temporarily retained will be suppressed a year later when it will be dead—or even two years later if, as sometimes happens, it does not die during the first year. Being then quite inert, it may be removed at any convenient time of year. Around the base of the stub, a pad will have developed, nourished by the main sap stream, which will help to cover the wound made by its removal. He is emphatic concerning the important part played by this pad, in the restoration of normal sap circulation. With close cutting the pad does not form, but the sap recedes from the edges of the wound as

Fig. 7. Same spur as in Fig. 6, after pruning according to Dezeimeris' method. Note "stub" (right) which will be removed a year or two later.

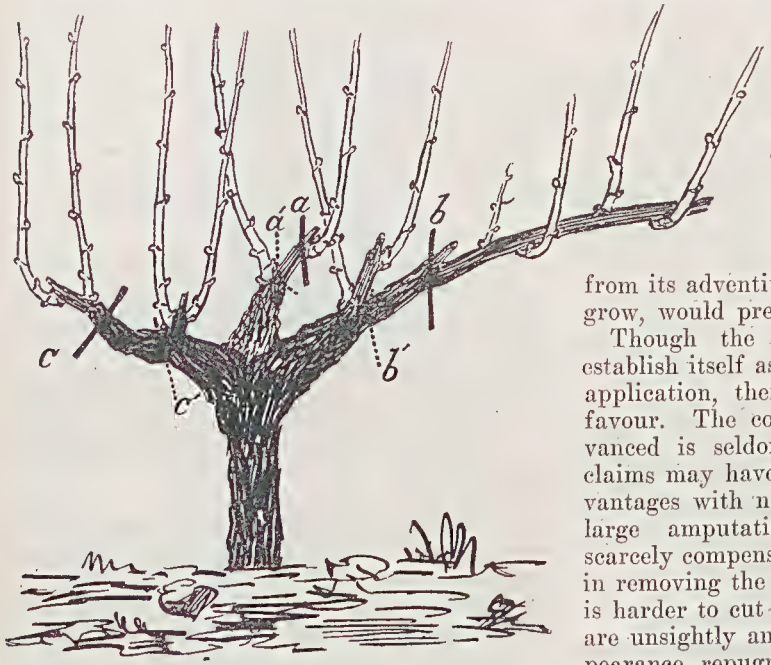


Fig. 8. Dezeimeris' and ordinary pruning compared.

[The full lines indicate the former, the dotted lines the latter: *a* and *a'*, on a spur or short-pruning unit; *b* and *b'* on a Guyot unit (long pruning) and *c* and *c'* in shortening back or replacement.]

shown in Fig. 5. A definite pad is visible in Fig. 4 (right), and the result, so far as sap passage is concerned, is very different from the previous case.

The main point to observe, according to Dezeimeris, is the avoidance of flush sections, until after the sap has been given time to reconstitute its canalization, around the base of the wood that will be severed later. The method, as applied to a spur or unit of ordinary short pruning, is illustrated in Fig. 6. The full lines at *a* and *b* show how Dezeimeris would prune, while the dotted lines at a^1 and b^1 show pruning as usually practised. Fig. 7 shows the same unit after pruning, the stub being shown to the right.

The method is applicable to all forms of training the vine, and a few examples are illustrated in Fig. 8. It is applied at *a* to an ordinary spur; at *b* to that common form of long pruning, the "Guyot," or "rod and spur" unit. Instead of pruning in the usual way at b^1, the previous year's rod is removed at *b*, the stub being retained as in the previous case. At *C* it is applied to "shortening back," or renewal of an arm that has unduly elongated. Instead of cutting at C^1 in the usual way, the section is made at *C*, so as to leave a stub of old wood that will be sawn off flush only when it is dead. The stub will probably need disbudding in spring and early autumn to suppress sprouts from its adventitious buds, which if allowed to grow, would prevent its dying.

Though the Dezeimeris method did not establish itself as a regular practice for general application, there is much to be said in its favour. The correctness of the views he advanced is seldom questioned. Some of his claims may have been too optimistic. The advantages with normal, careful pruning, where large amputations are exceptional, would scarcely compensate for the extra work entailed in removing the stubs, the dead wood of which is harder to cut than living tissues. The stubs are unsightly and give the vine an unkept appearance, repugnant to a careful vigneron.

Nor is it always the most vigorous vines that yield best. The slight weakening caused by close cutting on normally pruned vines may, in some cases, even improve yield, in a way similar to the increases resulting from grafting and cincturing. With most of our vine sorts the enfeeblement caused by pruning sections, such as are shown at a^1 and b^1 (Fig. 8), is not sufficient to warrant departure from usual pruning practice.

It is, however, in cases where the amputations of larger elements become necessary that Dezeimeris' pruning becomes of very real interest. In replacement or shortening back of parts of the vine that have become unduly elongated (as in *C*, Fig. 8), its rigorous application cannot be too strongly recommended. We have here a practical application of the adage, "Do not use the saw on the green wood of the vine."

Cutting through the Eye.

Cutting through the eye above the uppermost one intended for growth, so as to destroy the bud but retain the partition (*a*, Fig. 6), has often been recommended, but is seldom practised. It is said to avoid injury to the eye, due to infiltration of water, etc., into the internode pith, and also to make available for that eye, when it sprouts, the reserves contained in the internode above it. This is probably true,

but a correct section at this point demands more accuracy and greater effort than a cut through the internode (a^1, Fig. 6). Maximum possible growth is neither vital nor even desirable, from the upper bud of the spur. The cane it will give rise to will not be permanent. It is the lower bud that will provide the new spur for the following year, and of which healthy development is therefore essential. Slight weakening of the upper bud, usually the stronger grower of the two, is thus rather desirable than otherwise. Cutting through the internode is the usual course, but the section must not be made too close to the upper eye on the spur.

If, when severing a cane, the secateur be used only in the orthodox manner, with blade towards the base and jaw towards the tip, a cleaner cut will result. The part bruised by the jaw is thus eliminated instead of remaining on the vine.

Practical Applications.

Following are a few recommendations, based on the foregoing:—

Firstly, important amputations should be avoided in the greatest measure possible. If the vine is properly shaped from the start, and judiciously pruned subsequently, they will seldom be necessary, and pruning can be effected with the secateur alone. The saw is an abominable vineyard tool, and its abuse is responsible for more damage than is realized. It is, of course, a necessary evil, but it should be resorted to only when unavoidable and "flush cutting" limited to wood that is dead.

The first forming of the young vine merits the most careful attention. If framing be on sound lines, and not built up in haphazard manner, subsequent changes will seldom be needed. Drastic alterations entailing removal and reconstruction of arms or elements of the crown, are most undesirable. The amputations they entail cause serious disturbances in the sap circulation. Where an important element is suppressed, the vessels that had developed to supply its needs find no outlet for their sap, and this forces out useless and often sterile water sprouts and suckers whose exuberant growth upsets the balance of the vine for several seasons afterwards.

The scars left by sections made during the first year or two are still to be seen on the full-grown vine. They then appear to have largely healed over. This is only because the adult stem has increased so much in size that, in proportion, they seem insignificant. Had suppression of the same elements been deferred until the vine were full grown, wounds many times the size would have resulted, and if sawn off flush, instead of being stubbed, disorders such as those shown in Figs. 1 to 5 would have been probable.

No important amputation should be made without leaving a stub, as described above. Painting of the section with tar, to waterproof and disinfect it, is sound practice. Only a thin coat should be applied, otherwise on a hot day the tar may run on to healthy tissues. Tarring can with advantage be repeated when, a couple of years later, the dead stub is finally sawn off.

Disbudding of the stub must receive attention, especially during the first spring and summer, when sprouts will start from its adventitious buds. Unless suppressed, these will prolong life and postpone its ultimate removal.

When worn-out vines are renewed by forming a new stem and crown, from a sucker or water shoot (see Fig. 1), it is essential not to sever the old stem too near the insertion of the water shoot. A stub of fair length must be left for a couple of years, and only sawn off definitely, close to the new stem, when it is quite dead.

The vine is very tolerant, often giving fair returns under conditions not in harmony with its nature. But a penalty is exacted sooner or later, sometimes despite the best intentions on the part of the vineyard owner.

The present article was suggested by a recent inspection of a Sultana vineyard where disappointing yields were mainly due to pruning wounds. The owner was a careful grower, keen on his work and on its efficient execution. His quest after neatness led to excessive use of the saw, and consequently the depressed vitality of his vines.

The Sultana, with its large vessels and spongy wood, is susceptible to such troubles. The special pruning applied to it, which entails the removal of stout rods from the previous year, and sometimes the still stouter three-year old wood that support them, exposes it to pruning disorders which can best be prevented by avoiding close or flush sections on the green wood of the vine.

Vineyard Reconstitution

Phylloxera-resistant Vine Rootlings and Cuttings

CONDITIONS under which Victorian vine-growers may purchase phylloxera-resistant vine cuttings and rootlings (grafted and ungrafted) from the State Vine Nursery at Wahgunyah during the current year, have been drawn up, and copies may be obtained on application to the Department of Agriculture, Melbourne.

It has been found necessary to increase prices, and to insist on orders for ungrafted rootlings being lodged twelve months before delivery, as has hitherto been the practice for grafted rootlings only. In the past, vines have been supplied at much below the cost of production. The reduced scope of operations at the State Nursery naturally has increased this cost, and it has been decided that nursery stock henceforth cannot be supplied at so considerable a loss.

Though there is, to-day, but little planting of vineyards, the replacement of unsatisfactory blocks in existing vineyards will need some young vines annually, and it is desired to supply this demand as far as circumstances will permit.

Closing Dates for Applications.

For grafted rootlings (1934 distribution, June to August inclusive), applications will be received until 10th June. For the 1933 distribution the time for receiving applications closed on the 30th June, 1932, and present applicants cannot be supplied until 1934.

For ungrafted rootlings, to be distributed from July to August, 1934 inclusive, applications will be received until 30th June, 1933. After these dates applicants can be supplied only in the event of there being a surplus when all regular applicants have been satisfied.

Applicants are required to decide finally, when filling in their application forms, as to their stock and scion requirements, as no amendment can be permitted later.

Prices.

It will suffice here to explain that resistant vines are supplied to intending planters in any of the following forms, and at the prices stated (packing extra when consignments are forwarded by rail):—

Resistant rootlings, grafted with scions previously supplied by applicants, at per 1,000—£20 (deposit, £2 10s. per 1,000).

Resistant rootlings, ungrafted, at per 1,000—£5 (deposit, £1 per 1,000).

Resistant cuttings, at per 1,000—£2 10s.

Application Forms.

No application will be entertained unless made on the forms supplied for the purpose, which are obtainable from the Superintendent of Horticulture, Department of Agriculture, 605 Flinders-street, Melbourne; or from the Manager, Viticultural Station, Rutherglen.

Separate forms are provided for (*a*) grafted rootlings, and (*b*) ungrafted rootlings and cuttings. Applications must be filled in on the proper forms, and accompanied by a deposit as specified above.

Each applicant for forms will be supplied with a copy of the detailed conditions governing the distribution of phylloxera-resistant vine rootlings (grafted and ungrafted) and cuttings. Applicants are requested thoroughly to familiarize themselves with these. They are warned that under no circumstances can any departure be permitted from the regulations governing the distribution as detailed therein, nor can any request for special consideration be entertained.

The Green Peach Aphid

Progress Report of Spraying Experiments

By K. M. Ward, B.Agr.Sc. Assistant Entomologist.

DURING the past three years, careful investigations have been in progress to determine the most effective means of controlling the Green Peach Aphid (*Myzus persicae* Sulzer). This work has been made necessary by the serious toll that the insect takes of peach crops, particularly in certain years, and by the ineffectiveness of the methods employed to combat the pest.

At the outset it was decided to direct control efforts against the egg stage of the aphid, since that stage was obviously the most vulnerable point of attack. The principal objects of the work have been (i) to obtain a detailed and accurate knowledge of the activities of the insect throughout the year; (ii) to test the standard egg-killing sprays in use against the insect; and (iii) to discover an efficient spray material for destroying the eggs. The greater part of the work is to be published at a later date, but an outline of the results of spraying trials in the field are given at the present time in the hope that they may be of use to peach orchardists during the ensuing season.

Outline of Life-history.

The aphid first appears on the peach tree early in spring. The young insects hatch from eggs on the tree during July and August. They first feed on the buds and blossoms, and later attack the leaves, causing them to curl. Several generations of the aphid succeed each other until, in November, a generation of winged forms arises. These forms (summer migrants) make a migratory flight from the peach to secondary host plants, where they feed throughout the summer. Secondary food plants include various weeds (e.g., marsh mallow, cape weed, sow thistle) and garden plants (e.g., dahlias, peas, tomato, spinach). On these plants winged forms (autumn migrants) again develop during April and May, and they fly back to the peach, where they give birth to the wingless, egg-laying females. The latter, which are reddish-brown in colour, deposit eggs around the buds on peach laterals during May and June. *Fig.* 1 shows eggs of the green peach aphid deposited on the tip of a peach lateral.

Eggs of Green Peach Aphid among buds at the apex of a peach lateral.

The critical period during which egg-killing washes should be applied depends upon the times of egg-laying and hatching. It has been found from careful field observations that egg-

laying is completed by the third week in June, and that hatching commences early in July and extends to the last week in August. Spraying against the egg stage, therefore, should be carried out between the last week in June and the second week in July.

Experimental Work.

Preliminary tests conducted at Burnley and in the Goulburn Valley during the winters of 1930 and 1931 indicated that the insect might be completely controlled by means of an efficient egg-killing winter wash. In these tests unsprayed trees were heavily infested by the aphid, whilst trees sprayed with a tar distillate wash were quite clean, and, moreover, they remained free from the insect for the whole season. In view of the success of the tests it was decided to extend the work in the winter of 1932.

The 1932 experiments were carried out at two centres, at Ardmona in the Goulburn Valley and at the Burnley peach orchard. The Burnley trials were, in reality, a duplicate of those at Ardmona but on a smaller scale.

Methods.—At Ardmona a block of 320 peach trees of the Healesville cling variety, five years of age, was selected for the trials. A survey of the distribution of aphid eggs on the block showed that large numbers of eggs had been deposited on the trees.

The block was divided into twenty plots, each consisting of sixteen trees arranged in a square. The randomized arrangement of these plots is shown in *Fig.* 2. This arrangement was necessitated by the uneven distribution of the eggs through the block. Each of the four treatments (including unsprayed plots) was replicated five times. Results were taken only from the four trees in the centre of each plot. It will be seen that each group of four "experimental trees" was separated from each other group by two rows of trees, which were "buffer" trees. This arrangement was considered necessary to minimize the effects of drifting spray material on adjoining plots.

The results, which were measured in the following Spring (first week in October), are based on the percentage of infested laterals and twigs on the four "experimental trees" in each plot.

At Burnley each plot consisted of five trees in a row, and each treatment was replicated three times. The plots were again randomized.

Fig. 2.—Showing arrangement of plots at Ardmona. "The experimental trees" are shown in the circles.

A survey of the trees showed that the numbers of eggs present on them were even greater than at Ardmona.

The Ardmona Experiments.

The treatments applied were—

A—Tar distillate (Wisbech winter wash) .. 1 in 30
B—Tar distillate (Wisbech winter wash) .. 1 in 40
C—Red oil .. .. 1 in 20
D—Unsprayed plots (controls).

Lime sulphur at a strength of 1 gallon in 9 gallons of water was applied to other plots in another part of the orchard.

The sprays were applied on 12th July under ideal weather conditions with a spray pump pressure of 250 lb. per square inch. The average amount of spray material applied to each tree was 1.2 imperial gallons. The final figures obtained for each of the Ardmona plots are given in *Table* 1. On the ten plots sprayed with tar distillate the aphid could be found infesting laterals only at two isolated spots; one being a single infested lateral on plot B5, and the other a small, heavily-infested branch on a "buffer" tree—a branch which had obviously been missed when applying the sprays. As can be seen from a glance at *Table* 1, on all of the red-oil and lime-sulphur plots infestation by the aphid was evident. Obviously these two spray materials both failed to prevent the hatching of a proportion of the eggs, whereas in the case of the tar-distillate sprays the destruction was as great as could be expected under any circumstances. Unsprayed plots were heavily infested with the aphid, and the peach crop on them was considerably reduced (cf. Figs. 3 and 4).

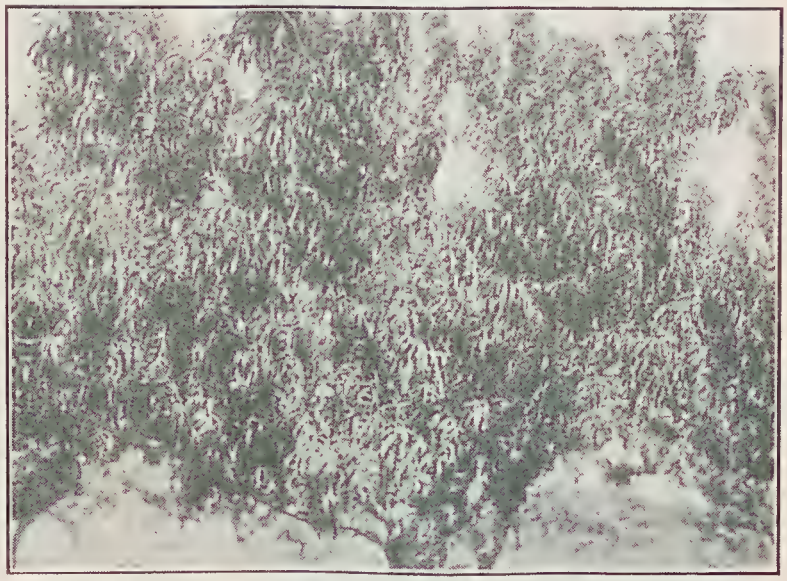


Fig. 3. Tree sprayed with tar distillate winter wash at Ardmona.

Table 1.—*Summary of Results at Ardmona*, 1932.

Plot.	Per cent. Infestation.	Plot.	Per cent. Infestation.
A 1. ..	0	C 1. ..	1·6
A 2. ..	0	C 2. ..	3·01
A 3. ..	0	C 3. ..	0·9
A 4. ..	0	C 4. ..	1·4
A 5. ..	0	C 5. ..	6·2
			Av. 2·6
B 1. ..	0	D 1. ..	46·1
B 2. ..	0	D 2. ..	21·8
B 3. ..	0	D 3. ..	7·6
B 4. ..	0	D 4. ..	64·5
B 5. ..	0·45	D 5. ..	22·7
	Av. 0.1		Av. 32.5

Plot.	Per cent. Infestation.
Lime-sulphur	25·5
Controls	90·0

A—Tar distillate .. 1 in 30
B—Tar distillate .. 1 in 40
C—Red oil .. .. 1 in 20
D—Unsprayed.

The Burnley Experiments.

The treatments were—

A—Tar distillate (Wisbech winter wash) .. 1 in 30
B—Red oil .. .. 1 in 20
C—Lime-sulphur .. .. 1 in 10
D—Controls.

The Burnley results are shown in *Table* 2.

Table 2.—*Summary of Results at Burnley*, 1932.

Plot.	Per cent. Infestation.	Plot.	Per cent. Infestation.
A 1. ..	0·9	C 1. ..	25·3
A 2. ..	0	C 2. ..	14·5
A 3. ..	0	C 3. ..	18·9
		C 4. ..	22·9
	Av. 0·3		Av. 20·4
B 1. ..	17·1	D 1. ..	50·7
B 2. ..	16·0	D 2. ..	37·6
B 3. ..	8·6		
	Av. 13·9		Av. 44·2

In the spring of 1932 the infestation of the Burnley orchard by the green peach aphid was heavy, due to the great numbers of eggs which had been deposited during the previous May and June. The figures shown in *Table* 2 not only fully confirm those obtained at Ardmona, but they give an indication of the kind of result which might be expected from these spray materials under conditions approximating a peach aphid plague.

Fig. 4. Unsprayed tree at Ardmona, showing defoliation caused by Green Peach Aphid.

Conclusion.

The most outstanding feature of the trials is the remarkable egg-killing efficiency of the tar-distillate wash, and the consequent high degree of control that it exercises over the aphid. The results have been very consistent during the three years over which the trials extend, and, as a whole, they show that a definite advance has been made in the control of a serious insect pest. Only rarely have traces of the aphid been found on trees sprayed with the tar distillate wash. While the red oil and lime-sulphur sprays appreciably reduced the aphid infestation of the trees to which they were applied, the extent of the reduction in plague years might not be altogether satisfactory. It should be stressed that only a *single application* of spray material was made in every case.

An interesting and important feature of the trials was that, although heavily-infested trees adjoined trees free from the insect, the latter remained uninfested throughout the rest of the season. It would thus appear that migration of the wingless spring forms of the aphid from tree to tree is not a common occurrence. However, it is conceivable that under conditions where overcrowding of the feeding aphids occurs on the tree (i.e., in an extremely heavy infestation) individuals might crawl to an adjoining tree in search of better feeding conditions.

The tar distillate used in the experiments was a product of Imperial Chemical Industries Ltd., and had been manufactured according to a formula devised at the Long Ashton Horticultural Research Station, England. In using tar-distillate washes it is important to realize that the material is solely a dormant-period spray, and if applied to trees in leaf severe injury will result. The only disadvantage connected with the material is its effect on the operator. It produces a slight inflammation of the skin on the face, and it is advisable to protect the face by means of vaseline or a suitable mask.

Acknowledgments are due to Mr. A. W. Jessep, M.Agr.Sc., B.A., Dip. Ed., Principal of Burnley Gardens, for continual assistance in the Burnley experiments; to Mr. W. Young, of Kelvin Orchards, Ardmona, for readily providing a site for the Goulburn Valley experments and giving all possible assistance; and to Mr. W. Nunn, Orchard Supervisor, for his capable aid.

Poultry Breeding

Seasonal Hints

By W. C. Rugg, Chief Poultry Expert.

AT this time of the year most poultrymen are turning their attention to the coming breeding season. For the man who is dependent on egg production for his living, it is probably the most important season of the year. His prospects for a profitable year depend to a very great extent on his making suitable plans for breeding during the next four months, and carrying those plans out successfully. Within the next few weeks he must select and mate up the number of birds necessary to give him sufficient eggs for hatching purposes. In making these calculations it is advisable to make up a pen or two extra, rather than run the risk of not having sufficient eggs for incubation at the right time, which is during July, August, and September. For chickens intended for egg production all hatching should be completed by the end of September, or, at latest, the first week in October. Late hatched chickens rarely develop satisfactorily, or make profitable egg producers. When chickens are intended for table purposes, however, they may be hatched at any time of the year.

Many poultrymen are of opinion that July hatching of chickens induces a false moult, but it is doubtful whether this is due so much to the date of hatching as to faulty feeding and management. If pullets were fed less mash and more grain in troughs and hoppers during their growing period, they would make better growth, and not be so likely to commence laying until they were properly developed, while the size of the egg laid would be better, and the risk of false moult considerably lessened.

It has been found with pullets that have been transferred from one locality to another that some will moult and cease to lay, while others are quite uninfluenced by the change, and lay normally, provided they are well fed. This latter trait was noticed particularly in birds on the Better Farming Train, which on each tour carried good specimens of several of the utility breeds for exhibition purposes. These birds were always in good feather and condition, which usually is conducive to good laying qualities. They were placed in show coops on the train, and lived there throughout the tour, which usually extends over periods of from 10 to 21 days. Although the space is limited—the coops being slightly under 2 feet square—and in spite of the rocking of the train when travelling, and the excitement caused by the thousands of visitors passing through the display carriages daily, many of these pullets and hens laid throughout the trip, and continued to lay after they had been returned home. They rarely moulted, and during the 34 tours it was necessary to replace pullets only on one occasion. Throughout each tour they were fed liberally on a variety of grain and succulent greenstuffs, and this, no doubt, was the chief reason for the retention of their normal habits under abnormal conditions.

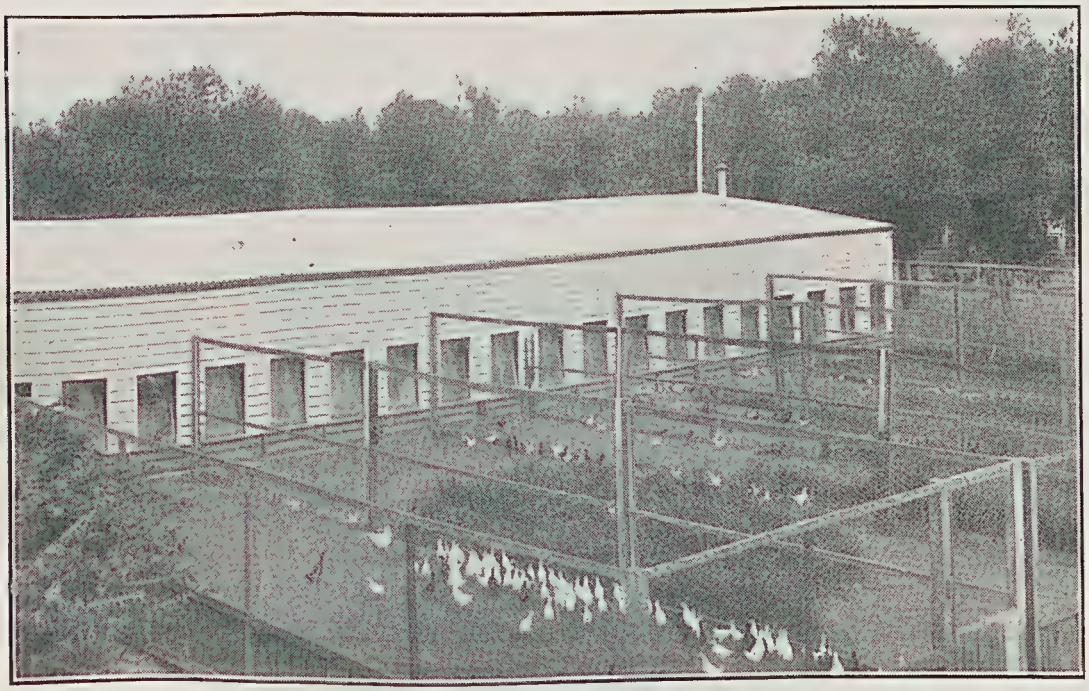
Advantages of Early Hatching.

One of the principal advantages of July hatching is that July-hatched cockerels required for stud purposes the following year are almost one year old by the time the breeding season arrives, and will have made much better growth than those hatched two or three months later. The surplus cockerels can be marketed about the time of the big spring racing carnival, when there is a great influx of visitors to Melbourne, and consequently an increased demand for chickens, which bring better prices than late-hatched birds, which do not come on to the market until after Christmas.

The July-hatched pullets, if well raised, will commence laying about the end of December, when older hens are usually producing fewer eggs and nearing the moult. Thus, these July-hatched pullets keep up the egg supply at a very critical time for most poultrymen, and even if they do go into a false moult in March, they quickly feather out and commence laying again.

If it were possible to hatch at the one time all the chickens required, probably the first half of September would be the most suitable period, but on most farms it is not possible to have enough eggs or sufficient incubator space at the same date. Consequently the poultryman must estimate how many pullets he will want for the coming year, and commence his hatching operations in time to allow of the last setting being hatched not later than the first of October. Chickens hatched later than that are subject to higher mortality in rearing than those hatched earlier, and are slower to

Pedigree tray for the separate hatching of eggs from stud hens.



Chicken brooder house at the State Research Farm, Werribee.

develop, usually commencing to lay late in the season or in the early summer, when eggs are very cheap.

Dangers of Late Hatching

All experienced poultrymen know the dangers of late hatching, but there are many people who have recently taken up poultry-keeping possessing very little experience, or, perhaps, none at all. This, despite the fact that success in this industry depends more on experience, brains, and determination than is the case in many other spheres of primary production. A large percentage of such people seem to think that they have only to purchase some hens and an income is assured. Sooner or later, however, experience will teach them that poultry-keeping is a business the principles of which must be thoroughly learned. They should be satisfied to start in a small way, and be content with small returns, and after the first year, if they find they are adapted to the business, they may extend their operations, when greater profits may be anticipated. Poultry-raising lends itself to very rapid expansion, and based upon experience slowly and painstakingly gained, the business is a sound one.

A hen's period of profitable laying is short, and the great majority do not pay after two years, while a large number are unprofitable after one year. As a consequence, it is necessary to breed a number of chickens every year to keep the laying flock up to full numerical strength.

Housing Conditions.

Properly reared, pullets can be kept for laying under fairly intensive conditions, and occupy little space—4 square feet of floor space in sheds is usually satisfactory—if the sheds are kept in a clean condition, with clean straw on the floors. However, this does not apply to breeding stock, which should be given free range conditions or roomy yards. Under these conditions, a larger number of hens can be mated to each male, higher percentages of fertile eggs be obtained, and stronger chickens reared.

Pullets intended for egg production should be given plenty of room during their growing period, and as near natural conditions as possible, until it is time to place them in their permanent quarters, which with Leghorns is when they are 16 to 18 weeks old. If this transfer is delayed until some start to lay, and they are then moved into strange quarters, especially into large laying sheds, there is often some crowding at night, and a grave danger of them developing colds, which often ends in a dose of chicken-pox or roup, retarding the birds from laying for many weeks.

In conclusion, it is of great importance at this time of the year not only to plan out the breeding and incubating operations, but also to see that all appliances which will be used for the chickens, such as brooders, yards, and utensils, are thoroughly cleaned and disinfected, and that the ground on which the young stock is to be reared has been limed, cultivated, and a crop of some description grown on it, giving the chickens a good clean start in life.

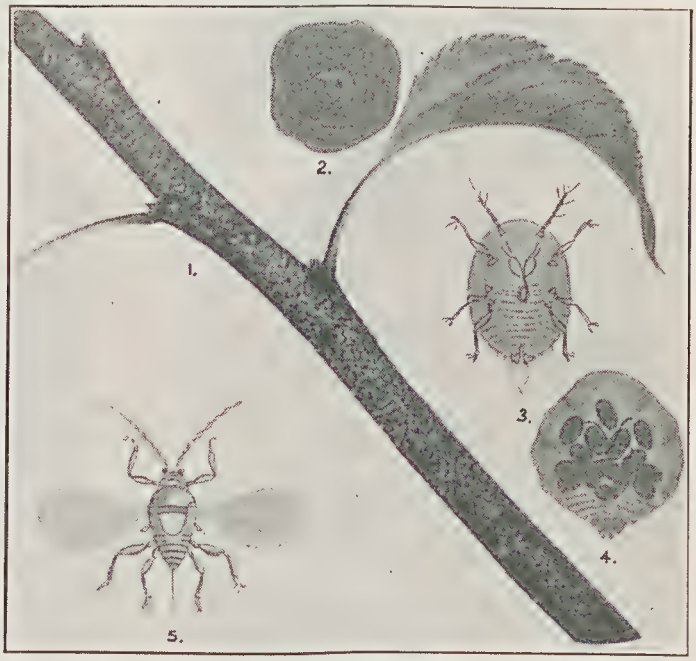
Clean containers for food and drink are essential for healthy chickens.

Winter Treatment of Orchard Insects

By K. M. Ward, B.Agr.Sc., Assistant Entomologist.

DURING the winter months there is always much that can be done, particularly in the orchard, to combat insect pests. Certain insects can be eliminated entirely from the orchard for the following season, while others can be very considerably reduced in numbers. At the time of the year when temperatures are low and the trees are dormant, orchard pests are practically inactive, and the majority of them can be effectually attacked. Moreover, definite results will be achieved if the correct steps are taken.

Before detailing these steps with respect to the various pests, I would point out the principal advantages of attacking them during the winter. (i) From the practical point of view—spraying and other control measures can be carried out at a time of the year when orchard operations are not numerous; (ii) from the economic aspect—dormant trees require much smaller quantities of spray material than trees carrying foliage. Again, in some cases a single winter application of spray is sufficient to control the insect, whereas, if the treatment is left over until spring, several spray applications will be necessary. A notable example of this is in the case of green peach aphid. (iii) From the entomological point of view—the insects can be attacked when they are in a single stage of development, and when their activity is at a minimum. For example, during the winter there is only the larval stage of the codling moth to contend against, whereas in spring and summer there are three stages to combat—the moth, the grub in the fruit, and the eggs, which are on the leaves. When insects are not actively moving and breeding, as is the case during winter, a higher percentage of them can be killed by spray treatment.



The San José Scale.

1.—Pear branch showing scale; 2.—Female scale (magnified); 3.—Scale, ventral view; 4.—Female and young (magnified and 5.—Perfect insect, male.

The following are four of the principal orchard insects against which winter control measures can be directed with definite success.

1. San José Scale (Aspidiotus perniciosus).

The importance to the apple and pear industry of controlling the San José scale cannot be over-emphasized, especially since our export fruits, particularly pears, are seriously affected. During the present export season there have been numerous instances of pears being rejected for export actually at the ship's side, and a still greater number of cases of fruit being condemned in the packing sheds on account of this insect.

This insect lives under a resistant, waxy scale on the bark of apple, pear, and other fruit trees, and also on various kinds of wattles,

particularly the golden wattle (*Acacia pycnantha*). If it is not destroyed during the winter it will reproduce rapidly in spring,

Peach branch showing curl of leaf caused by aphis.

and will spread to other trees. Each female insect can produce as many as 600 young scales in six weeks.

Control Measures.

1. Wherever San José scale is present on fruit trees spraying is absolutely necessary. The sprays recommended are lime-sulphur (1 in 10) or red oil (1 in 20). The best time to apply these sprays is during July and early August.

2. In an infected orchard all prunings should be burned. Badly affected branches should be cut out and burned. The burning of prunings is a wise precaution at any time, as they may carry other scale insects, such as apple mussel scale and olive scale, eggs of red spider and of aphids, live woolly aphids, and various fungus diseases. The actual burning of the prunings can best be done in an old tank which has been cut down and mounted on wheels. It can then be dragged through the orchard while pruning is in progress and the prunings burned immediately.

3. Where wattle trees are infested they should be grubbed out and burned. Indeed, it is not wise to allow wattle trees to grow near orchards in a district where San José scale is prevalent.

2. Green Peach Aphid (*Myzus persicae*).

This type of insect can be effectively controlled by means of winter spraying alone. With regard to the peach aphid the success of winter spraying is due to two facts. (i) The aphid deposits overwintering eggs on the peach tree (in May and June). (ii) Spring infestation of the trees by the aphid takes place only from these eggs (which hatch in July and August).

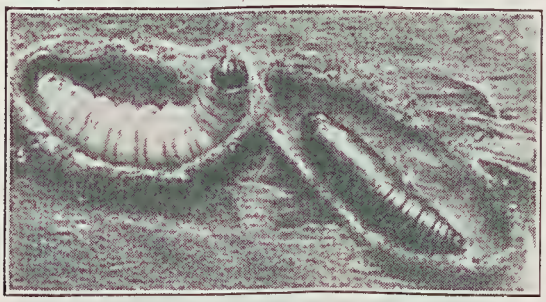
It has been found, in experiments described elsewhere in this issue, that in an orchard where these eggs have been destroyed by an efficient spray material, the activity of the aphid is suppressed for the remainder of the year. That is to say, where a suitable egg-killing spray has been applied, there is no fear of the trees becoming attacked by the aphid in the following spring. Peach-growers would be very well advised to make a careful examination of any leaves still remaining on their trees. In many cases winged forms of the aphid may still be present, together with wingless, red-coloured forms. These latter are the egg-laying females. Early in June it should be possible to find the black, shining eggs around the buds on the laterals. In cases where the aphids and their eggs are found, the grower should decide at once to apply a winter egg-killing wash to his trees.

A suitable wash for this purpose has been discovered as a result of the experiments referred to above. This material is tar distillate winter wash. There are two important points to be observed in the use of this wash:—(i) *Time of Application.*—The eggs of the aphid

Green Peach Aphid.

1.—Female, winged form (magnified); 2.—Pupa of female; 3.—Earlier stage of female.

are all laid on the peach trees by the middle of June, and they commence to hatch in July. Therefore, sprays should be applied between mid-June and the second week in July, the most suitable time being the first week in July. (ii) *The strength of the spray mixture* should be 1 gallon of tar distillate in 35 gallons of water. Any black peach aphids on the trees at the time of spray application also will be destroyed. Tar distillate washes should be applied only to trees which are completely dormant, otherwise severe injury will result. The spray is severe in its effect on the face of the operator, and he is advised to cover all exposed parts of the face with vaseline, or to protect it by means of a suitable mask.



Codling moth larva and pupa within cocoons from beneath bark of apple tree.

3. Codling Moth (*Cydia pomonella*).

The codling moth cannot be completely controlled by winter treatment, but the numbers of moths emerging in the first brood in spring can be very appreciably reduced. The larvae overwinter in various situations, chief of which are—(*a*) under loose bark on the trunks of fruit trees; (*b*) in cracks and crevices on other parts of trees; (*c*) in packing sheds and fruit cases; and (*d*) in the props used to support branches of trees heavily laden with fruit. Winter treatment of codling moth involves the practice of orchard sanitation. The matters requiring attention are—

1. *The examination of bands* and the destruction of larvae in them. The practice of banding involves the removal of loose bark from the tree trunk and placing on the trunk a band of some coarse material. Wool-pack strips are most suitable. Chaff-bag strips are not suitable owing to the openness of the weave. The larvae are then forced, through lack of other shelter, to enter the band to spin the cocoons in which they overwinter. This band can be examined at appropriate times and the grubs in it destroyed.

Apple and pear trees should be banded from November to August, but it is particularly important to have bands on the trees before the larvae commence to seek their winter quarters, i.e., before April, as greater numbers of grubs are caught in the bands during the autumn and winter months. The correct time to examine them is during August, i.e., before the moths commence to emerge in spring.

2. *Attention to Packing Sheds.*—Numerous larvae leave apples and pears while these are in the packing shed and crawl to secluded positions to spin their cocoons. In spring the moths emerge and fly to nearby fruit trees to deposit their eggs. Obviously, at the end of each fruit season the grower should seek out these grubs and destroy them. Where possible apple and pear store-rooms and packing sheds should be provided with fly-wire screens over the doors and windows to prevent the exit of the moths in the spring.

3. *Fruit cases and props*, which usually carry a big population of larvae, should be examined and the larvae in and on them destroyed. Only recently as many as 80 larvae were found in one prop in a Harcourt orchard.

4. *All waste fruit* around the orchard and packing shed should be removed and destroyed, together with other rubbish.

Each codling moth larva is the potential parent and grandparent of upwards of 3,000 moths in the spring and summer months—hence the desirability of destroying as many larvae as possible during the winter!

4. Red Spider and Bryobia Mite.

The fruit trees attacked by these mites are the apple, pear, and almond. Other fruits may be affected, but not very seriously. In Victoria both of these mites overwinter by means of resistant eggs, which are deposited usually on roughened surfaces on the tree. Frequently the eggs are found on fruit spurs and on leaf and fruit scars; also on props used in the orchard. They are deposited in dense masses in these situations, and although extremely small they are made fairly conspicuous by their reddish colouration. Wherever they are found spraying should be resorted to as a means of destroying them. The mites are not easily dealt with when infesting the leaves of fruit trees in spring or summer.

The spray materials most effective against these mites are lime-sulphur (1 in 10) or red oil (1 in 20). Either of these sprays should be applied in July or August.

Milking Methods Compared

Wet v. Dry Milking

RESULTS which indicate that milk drawn with clean, dry hands is cleaner than milk drawn by wet or greasy hands are given in an article by Miss Kathleen Boyes (Dairying Superintendent for Hampshire) and Mr. J. McClemont (Advisory Bacteriologist, National Institute for Research in Dairying), in a recent issue of the *Journal of the Ministry of Agriculture* (*Great Britain*). The methods compared were (1) milking with clean, dry hands; (2) with clean, wet hands; and (3) with clean, dry hands lubricated with vaseline.

"Not only does wet-hand milking cause contamination of milk, but it is certain that, with sore and cracked teats, it is responsible for much trouble that is avoided where dry-hand milking is practised. It has been suggested that grease, such as clean vaseline, may be used on the hands during milking to lubricate and soften the teats if these are cracked, but it should be pointed out that teats seldom become cracked where milking is done dry-handed, and that the application of a suitable ointment to cracked teats after each milking will accelerate healing and will soften them sufficiently to enable milkers to work dry-handed at the succeeding milking."

In the experiment the dry-handed milkers washed their hands thoroughly in soap and water and dried them on a clean towel before starting. This was repeated after the milk from each cow had been tipped. The wet-handed milkers washed and dried their hands, but moistened them with milk before and during the progress of milking; while those milking with greasy hands washed and dried their hands, but rubbed them with a small portion of clean vaseline before starting to milk. Precautions were taken to exclude as far as possible all sources of contamination likely to cause variation in the bacteriological content of the milk other than that arising from the condition of the hands of the milker.

TABLE I.—ABSENCE OR PRESENCE OF B. COLI.

Method of Milking.	Number of Samples.	Absent.	*B. Coli* present in			
			1 c.c.	1/10 c.c.	1/100 c.c.	1/1,000 c.c.
Dry ..	30	30	0	0	0	0
Wet ..	30	15	6	3	6	0
Greasy	30	16	5	3	3	3

Cleanliness of Dry Method.

The most striking feature of the results was the absence of *Bacillus coli* in all the samples of milk drawn with clean dry hands, as shown in Table I.

The advantage of dry-handed milking is also striking when the bacteriological counts are considered, and by grouping these, as has been done below, the comparison is clearly brought out in Table. II

TABLE II.—BACTERIOLOGICAL COUNT.

Method of Milking.	Number of Samples.	Bacteriological (Colony) Count per c.c.			
		Number of Samples in which Count lay between—			Over 30,000.
		0–1,000.	1,001–10,000.	10,001–30,000.	
Dry ..	30	22	16	..	2
Wet ..	30	3	16	4	7
Greasy	30	15	10	2	3

After the samples had been taken from the pails to be tested for bacteriological count, sediment tests were made by thoroughly mixing the milk and passing one pint though a Sutherland-Thomson dirt tester. The pads were examined for points for cleanliness, the maximum possible score being 100 points.

The results are here shown in summarized form and again show a distinct advantage for dry-hand milking:—

It is interesting to note that, towards the end of the experiment, the hair on the udders had become so long that they again required clipping, and the sediment pads from the milk drawn with wet hands showed the presence of very many hairs. The pads from the milk drawn with greasy hands showed fewer hairs, while the dry-handed pads only showed occasional hairs.

TABLE III.—SEDIMENT TESTS.

Method of Milking.	Number of Samples.	Score 0–60.	Score 60–80.	Score 80–100.	Average Score.
Dry ..	30	5	9	16	72·5
Wet ..	30	21	7	2	31·8
Greasy	30	14	10	6	54·6

Artificial Fertilizers

SUPPLEMENTARY REGISTRATIONS

SUPPLEMENTARY LIST OF FERTILIZERS REGISTERED AT THE OFFICE OF THE DIRECTOR OF AGRICULTURE UNDER THE FERTILIZERS ACT 1928 (No. 3680) FOR THE YEAR 1933.

Description of Fertilizer.	Brand.	Nitrogen.				Phosphoric Acid.				Price asked per ton.*	Where Obtainable.
		As Blood, Bone, and Flesh.	As Blood and Bone.	As Bone.	Total.	As Water Soluble.	As Citrate Soluble.	As Citrate Insoluble.	Total.		
		%	%	%	%	%	%	%	%	£ s. d.	
Animal Fertilizer ..	Ibis	3·90	..	..	3·90	..	8·10	8·40	16·50	6 10 0	Ficken, Halliday and McClelland Pty. Ltd., 91 Swan-street, Richmond
Blood and Bone ..	Eclipse	..	4·42	..	4·42	..	5·88	8·46	14·34	7 0 0	T. A. Mills, Spec Gully, Golden Square
„ „ ..	Clover	..	4·76	..	4·76	..	9·81	6·17	15·98	7 0 0	H. T. Impey, 139 Barkly-street, Ararat
„ „ ..	Cockatoo.. ..	..	..	4·50	4·50	..	5·90	5·88	11·78	6 0 0	Richard Fordham, Cressy-road, Camperdown
Bone Fertilizer ..	Kings, Geelong ..	3·00	..	..	3·00	..	7·86	2·87	10·73	6 2 6	J. C. King and Sons Pty. Ltd., Marshall
„ „ ..	Echuca	..	4·25	..	4·25	..	8·25	8·50	16·75	9 0 0	W. G. Boyle, Goulburn-road, Echuca
„ „ ..	Pannifex ..	..	..	4·00	4·00	·50	5·80	11·70	18·00	6 15 0	H. C. Pannifex and Co., 149–153 Stanley-street, West Melbourne

Description of Fertilizer.	Brand.	Nitrogen.	Phosphoric Acid.	Mechanical Condition.		Price asked per ton.*	Where obtainable.
				Fine Bone.	Coarse Bone.		
		%	%	%	%	£ s. d.	
Bonedust ..	B. ..	3·35	23·20	60·00	40·00	7 0 0	Thomas Benson, Woodford
„ ..	Eclipse ..	3·27	24·59	69·40	30·60	7 10 0	T. A. Mills, Spec Gully, Golden Square
„ ..	Good(e) ..	3·43	23·94	55·00	45·00	8 10 0	Good(e) Lime and Fertilizer Co., Dutson, via Sale

* F.O.R. at the station nearest place of manufacture.

Orchard and Garden Notes

By Edward E. Pescott, F.L.S

Carnations.

The Flower Garden.

As soon as the cold weather causes the dahlias to turn brown and dry, the tubers should be lifted and air-dried for a day or two. The stems should then be cut off, leaving about 9 inches of stalk. The tubers should be stored in the open, in a well-lighted dry place; or if stored in a shed, they should be in the brightest situation. A good dusting with lime is advisable.

Iceland poppies, antirrhinums, and wallflowers are very subject to "collar rot" in the wet weather. The bark decays at ground level, and the plant quickly dies. There is no remedy. As soon as one plant is noticed to be affected, dust the whole of the remaining plants with copper carbonate. This protects the plants from attack.

Carnations and stocks suffer in winter if they receive too much water. The carnations show the trouble by developing purplish spots on the foliage; while the stocks wilt and droop. The remedy is to dust the plants liberally with lime, and to withhold water supplies. Sweet peas should also have a good dusting of lime.

Roses should not be pruned until the end of June. The bushes should then be pruned of all thin, weak wood, opening out the centres, and cutting out all thin side laterals. Only strong wood should be left, and no overcrowding should occur. The ends of each stem should be cut back to a strong bud pointing outwards.

The Orchard.

It is not yet too late, except in the very cold districts, to sow a crop in between the trees for green manure. Quite a number of plants are used for this purpose, including field peas, tick beans, tares, rape, barley, and mustard. Generally, the purpose of a green manure is to provide nitrogen, and as nitrogen is a valuable adjunct to the soil, one or more of the first three should be selected.

The Vegetable Garden.

Cabbage, cauliflower, and similar vegetables should have the soil well heaped or "hilled" around their stems, so as to increase the rooting system, with occasional dressings of sulphate of ammonia to assist growth. If cabbage aphis be present, the plants should be well dusted with lime, or sprayed with nicotine sulphate. The spraying must not be done if the plants are near the "hearting" stage.

All vacant plots should be sown with any green manure crop, giving them first, if possible, a covering of stable manure. The vegetable garden requires an abundance of humus, and every means possible should be taken to ensure a good supply.

The benefit of a lime or gypsum dressing should not be overlooked, applying it where animal manure has not been given.

Asparagus beds should be cleaned out, all stems being cut away from the crowns. The beds should receive a heavy top-dressing of stable or poultry manure. If the bed is at all high, some of the surface soil may first be taken away, before the top-dressing is applied. The bed should be kept free of weeds during winter.

Rhubarb plants should be very liberally supplied with manure, clearing away the soil, so that the manure may be placed near the crown.

Registration of Stallions

Thirteenth Annual Report

(Horse Breeding Act 1928).

By E. A. Kendall, B.V.Sc., Chief Veterinary Inspector

FOR the year ending 30th June, 1933, the number of stallions registered under the *Horse Breeding Act* 1928 totalled 961, compared with 826 for the previous year, an increase of 135. In classes, these comprise 703 draught, 153 light, and 105 pony stallions, the increased registrations effected in each class over last year's figures being 78, 42, and 15 respectively.

By virtue of the provisions of the Act governing registrations, 625 stallions of all classes over five years of age, having been examined and registered for the previous year, were registered without further examination. During the previous year 576 stallions were similarly registered, making an increase of 49 in the number of aged stallions so registered this year.

At 266 scheduled inspection parades throughout the State, 623 stallions were presented for veterinary examination, an increase of 269 above the number examined last year.

Taking the stallions by classes, 243 or 48.31 per cent. of 503 draught stallions examined were rejected; 112 or 22.26 per cent. on account of unsoundness, and 131 or 26.043 per cent. as being below a reasonable standard. In the light class, of 81 examined, 31 or 38.27 per cent. were rejected; 7 or 8.64 per cent. of these rejections being for unsoundness, and 24 or 29.63 per cent. for low standard. 39 pony stallions were examined, of which 13 or 33.333 per cent. were rejected; 3 or 7.692 per cent. being unsound, and 10 or 25.641 per cent. being below a reasonable standard.

Complete tables setting out the results of examinations conducted on the 623 stallions submitted for registration are included in this report. For purposes of comparison, corresponding tables for the previous year are included also. A survey of these tables shows a pronounced increase in the total percentage of rejections for the year under review over the previous year, the figures being 46.067 per cent. as against 29.37 per cent. This increase applies both to unsoundness, and disapproval on account of low standard, although the increased total percentage is due mainly to unsoundness.

The table of examinations for the year 1932-33 discloses that 101 draught stallions or 20.08 per cent. were rejected for sidebone, compared with 20 or 6.88 per cent. for the previous year. The other unsoundnesses in this class of stallion are not appreciably out of proportion to the greater number examined. Although they are fewer in numbers than draught stallions, the light and pony classes also show much higher percentages of rejections, both for unsoundness and disapproval, than for last year.

The increase in the proportion of disapproved stallions is not difficult of explanation. It is to be expected that there will always be a number of "misfits" bred every year through faulty selection and mating, even when on the sire's side, there is soundness and approved breeding, type and conformation, for no sire, however outstanding in these respects, can beget young male progeny of his kind from inferior mares. This method may serve for utility horse-breeding because of the greater variation in requirements for such purposes, but it certainly will not do for producing stud horses.

There is little doubt that owing to the greatly increased demand for horses, particularly of the draught types, many owners have been induced to submit, for examination, three-year old colts of poor type and breeding, &c., which, under circumstances prevailing a few years ago, when prices of primary products were on a comparatively high level, would have been gelded. Indeed, some owners admitted that they only deferred this operation "to see how the colt would get on at the examination."

The position is more serious in regard to the rejections for sidebone, the principal unsoundness. The *Horse Breeding Act* was designed mainly for the purpose of eliminating hereditary unsoundness from stud horses, so that sound utility horses could be bred for all requirements. For a number of years after the Act came into force there was a progressive decline in the percentage of unsoundness in stallions examined, but recently it has shown a tendency to increase, and has this year reached a stage comparable with the pre-examination period.

As already stated, 101 draught stallions were rejected for sidebone, compared with twenty during the previous year. An investigation made for the purpose of accounting for this extraordinary increase has revealed that a large proportion of stallions examined for the first time, as required in their third year, were affected with sidebone. This was to some extent expected in view of the revival in horse-breeding, and the desire of some owners "to take a chance" of their colts passing the examination. In addition to these, however, there were a considerable number of four, five, and six-year old, and over, stallions examined for the first time this year. Some of these had not previously been in this State, or had been outside Victoria for varying periods, and on examination proved to be affected with sidebone. Furthermore, a number of others owned in Victoria, and not previously examined, were submitted for registration during the year as a result of prosecutions and police inquiries.

These circumstances, however, do not wholly account for the high incidence of side bone in this year's examinations. There is every reason to believe that it is in a large measure influenced by the number of rejected stallions which are kept by owners for use on their own mares in accordance with the provisions of the Act. To the extent that they are so used, they must beget a certain number of progeny of both sexes which develop hereditary unsoundness in the form of sidebone.

There is considerable difficulty in obtaining full particulars of the breeding of a number of colts submitted for examination, and in tracing the movements of rejected stallions, which have been sold by their original owners ostensibly for working purposes. It is reasonable to assume, however, that there are instances of these stallions being illegally used for breeding purposes, and that they add their quota to the unsound stock, which is subsequently bred from, thus perpetuating unsoundness in future generations.

This unsatisfactory state of affairs can be remedied only by amendment of the *Horse Breeding Act* with the object of preventing any rejected stallion being used for breeding purposes at all. A further desirable and necessary amendment is one to provide for the first examination of stallions in their second year, instead of the third as at present, or some alternative by which these colts can be controlled. It is certain that a number of two-year old stallions which are not subject to registration, and which the owners do not intend to keep as stallions when they become eligible for registration the following year, are used on a limited number of mares. Such action not only defeats in some measure the object of the Act, but places honest and skilled breeders at a great disadvantage.

Revival in Horse Breeding.

During recent years, attention has been drawn, in annual reports on the operations under the *Horse Breeding Act* to the growing shortage of suitable draught stallions, and the likelihood that the situation as regards the supply of heavy horses for farm and industrial purposes, would become very acute as a result of the decline in horse-breeding some years ago. This situation has now become accentuated with the unprecedented fall in prices for primary products, and the paramount need to curtail drastically the costs of production, which it is generally admitted, can be accomplished in some measure by the return to the more general use of horses for farm work. There is also indication in reports of horse sales, especially at country centres, that the demand for horses for heavy haulage is increasing considerably, as a more economic proposition than mechanical transport for such purposes.

The desire of many farmers to revert to the use of horses is further clearly indicated in the number of draught stallions registered this year, viz., 703 as compared with 625 last year. A truer reflex, perhaps, is the number submitted for examination, viz., 503 as against 291 the previous year—an increase of 72.85 per cent. It is all the more to be deplored, therefore, that so high a proportion of the larger number examined were refused registration for the reasons already stated.

There are also signs of a definite return to popular favour of light horses and ponies.

The number of light and pony stallions submitted for examination this year was almost double that of these two classes for last year. There is evidence that a considerable number of people in both the country and the metropolis are beginning to find the motor car too expensive in the present difficult times, and are disposed, temporarily at least, to revert to the use of light horses and ponies.

The Horse Association, which was formed in Melbourne some two years ago, no doubt has contributed materially to this reversion, by

Summary of Examinations, 1932-33.

—	Draught.		Light.		Pony.		Total.	
	Examined. 503	Certificated. 260	Examined. 81	Certificated. 50	Examined. 39	Certificated. 26	Examined. 623	Certificated. 336
	Rejected.	Per cent. Rejected.	Rejected.	Per cent. Rejected.	Rejected.	Per cent. Rejected.	Rejected.	Per cent. Rejected.
Bog Spavin	1	·199	..	..	1	2·564	2	·322
Bone Spavin	1	·199	1	1·234	1	2·564	3	·482
Cataract	1	·199	..	..	..	..	1	·160
Curb	..	..	1	1·234	..	..	1	·160
Osteo Porosis	..	..	1	1·234	..	..	1	·160
Ringbone	7	1·391	2	2·470	1	2·564	10	1·605
Roaring	..	..	1	1·234	..	..	1	·160
Shivering	..	..	1	1·234	..	..	1	·160
Sidebone	101	20·080	..	..	..	..	101	16·212
Stringhalt	1	·199	..	..	..	..	1	·160
Through unsoundness	112	22·267	7	8·640	3	7·692	122	19·582
Through disapproval	131	26·043	24	29·630	10	25·641	165	26·485
Total	243	48·310	31	38·270	13	33·333	287	46·067

Summary of Examinations, 1931-32.

—	Draught.		Light.		Pony.		Total.	
	Examined. 291	Certificated. 199	Examined. 45	Certificated. 34	Examined. 18	Certificated. 17	Examined. 354	Certificated. 250
	Rejected.	Per cent. Rejected.	Rejected.	Per cent. Rejected.	Rejected.	Per cent. Rejected.	Rejected.	Per cent. Rejected.
Bog Spavin	..	..	..	..	..	..	..	..
Bone Spavin	..	..	..	..	..	..	..	..
Cataract	..	..	..	..	..	..	..	..
Curb	1	·34	..	..	..	..	1	·28
Osteo Porosis	..	..	..	..	..	..	..	..
Ringbone	2	·68	1	2·22	..	..	3	·85
Roaring	..	..	..	..	..	..	..	..
Shivering	4	1·38	..	..	..	..	4	1·13
Sidebone	20	6·88	1	2·22	..	..	21	5·93
Stringhalt	1	·34	..	..	..	..	1	·28
Through unsoundness	28	9·62	2	4·44	..	..	30	8·47
Through disapproval	64	21·99	9	20·00	1	5·55	74	20·90
Total	92	31·61	11	24·44	1	5·55	104	29·37

demonstrating in many ways the important place that horses can yet, and should occupy, in man's service. The services rendered by this association to the horse-breeding industry and to lovers of horses are to be commended. It is to be hoped that its activities will increase, and lead to the early formation of a State-wide organization.

Appeals and Compensation.

Nine examinations were conducted by Appeal Boards appointed by the Minister, pursuant to appeals lodged by owners of rejected stallions against the decision of veterinary officers. The appeals were upheld in one case of rejection on account of sidebone, and in another for disapproval. Two appeals in respect of sidebone, one of stringhalt, and four disapprovals were dismissed.

During the year eighteen claims for compensation under the Act were submitted by owners of stallions, which, having been registered the previous year, were rejected on re-examination during the current year on account of unsoundness. Thirteen claims were duly paid on castration of the stallions concerned. In the other five cases the owners have not proceeded with their claims.

Parades for the Coming Season.

Appended to this report is the schedule of stallion inspection parades for the ensuing year. Owners of stallions are reminded that application for registration must be lodged with the chief veterinary inspector on or before 1st July, 1933. Applications must be accompanied by a fee of £3, which comprises registration fee of £1, and compensation fee of £2.

It should also be noted that unless an application is duly received indicating that a stallion will be presented for inspection at a scheduled parade at least seven (7) days prior to the date fixed for the parade, the veterinary officer will not necessarily visit the place of parade, and any owner neglecting to so apply will be called upon to pay the additional cost of a special examination, in order to avoid proceedings being instituted for failing to comply with the Act.

Forms of application may be obtained from secretaries of agricultural societies, and from officers in charge of police stations.

Change of ownership must be notified without delay in order that certificates of registration may be endorsed accordingly. A registration expires within 30 days unless the required notice is given.

Stallion Register 1932-33

(Under the Horse Breeding Act 1928)

Part II.—Registrations subsequent to 28th February, 1933

For registrations prior to 28th February see Journal *for May, 1933.*

Cert. No.	Name.	Age* and Class.	Owner and Address.
983	Acme Voyage ..	6 L.	Mrs. E. Gange, Werribee South
980	Cedric	A. D.	H. J. Cannard, Lascelles
981	Don Lionel ..	A. L.	A. J. Midgley, Minyip
976	Drumcross Success	3 D.	L. R. Kossatz, Netherby
975	Eureka Flash Boy	3 D.	A. Stokes, Abbotsford
982	Gay Serenader ..	A .T.	W. Mallinson, Stoneyford
984	Harvest King ..	A. T.	H. Ingram and Son, Orbost
977	Radiant Derby ..	6 L.	W. A. Riedell, Tongala
979	Rightaway ..	6 L.	G. H. Mitchell, Speed
978	Udale Jack ..	A. D.	A. J. Pyers, Donald

* *Note.*—Age in years. A., aged; D., draught; L., light; P., pony; T., thoroughbred.

REGISTRATION REFUSED

List of Stallions in respect of which Certificates of Registration have been refused but which, the owners having paid the prescribed fee, may be retained for breeding purposes with owner's own mares.

Name.	Age* and Class.	Owner and Address.
Unnamed	3 L.	R. P. Nicol, Yarram
Arworthal	A. L.	Mrs. A. Nicholson, Woomelang
Avon Style	3 L.	D. McIvor, Beazley's Bridge
Bangaroo Style	4 D.	G. Hounsell, Jeparit
Barfold	A. D.	N. J. Hanrahan, Barfold
Baron Agitation	4 D.	Dukelow Bros., Mt. Cotterell
Baron Bellicose	4 D.	H. V. McLean, Banyan
Baron Black	5 D.	H. E. Gregory, Hopetoun
Baron Harvey	3 D.	C. J. Lang, Warracknabeal
Baron Willie	5 D.	J. A. Janetzki, Minyip
Baronet	A. D.	W. Cameron, Lascelles
Basil More	A. D.	W. Bilstein, Pirlta
Bay Prince	4 D.	N. A. Campbell, Kerang
Bill	3 D.	C. Evans, Willaura
Bill	3 D.	J. Nalder, Lalbert
Blue North	3 D.	C. Brownlaw, Carwarp
Bold Alexander	A. D.	W. T. Morrish, Tiega
Bold Duke	A. D.	Mrs. E. M. Jenkins, Merrigum
Bold Surprise	3 D.	L. S. Jackson, Laen
Bonnie Belmain	3 D.	E. and F. Sutton, Boigbeat
Bonny Obedience	A. D.	C. Storer, Branxholme
Boxa Dale	3 D.	J. Flavel, Yaapeet
British Banker	4 D.	H. G. Westphal, Gelantipy
Buchylyvie Again	A. D.	J. H. and W. Oldfield, Nhill
Captain Hinkler	5 D.	L. F. Stewart, Nandaly
Carngham Flash Baron	4 D.	T. A. Heard, Noradjuha
Cavalier	4 D.	W. J. O'Brien, Cowwarr
Cedric Prince	3 D.	C. Mengler, Linga
Champion	A. D.	Mrs. B. Willmott, Trentham
Clem Junior	A. P.	N. Cole, Camperdown
Clyde	3 D.	C. Butcher, Creek View
Clyde	A. D.	C. Hebard, Coleraine
Cocky	A. D.	A. L. Eltis, Melbourne
Count Douglas	A. D.	C. A. Lawrence, Apsley
Dandy Bell	A. L.	H. Spice, Bacchus Marsh
Dimora Chief	3 D.	Jenz Bros., Portland
Doctor Mannix	A. D.	A. Sherwell, Patchewollock
Dodger	4 D.	T. Makeham, Cannie
Donald	A. D.	Smart Bros., Gooramadda
Dowhill Black Prince	5 D.	R. V. Quick, Angip
Fish Creek Baron	A. D.	J. J. Mackin, Fish Creek
Flash Direct	A. L.	C. T. Evans, Lexton
Flash King	3 D.	D. Bryce, Narraport
Flash Light	5 D.	L. J. Mason, Warracknabeal
Giffard Lad	5 D.	H. F. Shields, Giffard West
Glen Muggins	4 P.	H. Borbidge, Ararat
Grand Star	A. D.	A. Wohlers, Mt. Wallace
Greenoak Ideal	4 D.	E. F. Arthur, Warracknabeal
Hero	3 D.	Clyne Bros., Tinamba
Hill King	A. L.	A. E. Cummings, Berrimal
Hinkler	4 D.	H. Fisher, Yaapeet
Honest Glen	A. L.	W. Eichler, Chillingollah
Honest Tom	3 D.	R. Geddes, Lake Bolac
Jack Dale	4 D.	A. E. Raffey, Yarrara
Jock McGregor	3 D.	Latta and Smith, Walpeup
Kellum McBride	3 D.	C. S. Sims, Mitiamo
Kelvin Again	5 D.	C. H. Wandell, Underbool
Kennedy's Pride	5 D.	H. F. Mathison, Maffra
King Henry	A. D.	F. Mackin, Bena
Korongah Bold Eric	3 D.	W. R. Hines, Donald
Linkwood Prince	3 D.	V. S. Holt, Kurraca W.
Lulu Boy	A. L.	E. B. Cochran, Ballarat
Lyndem's Pride	5 D.	W. H. Kortum, Elmore
M.A.	A. D.	J. A. McKinley, Timor W.
Major	A. D.	F. Hobbs, Baring
Major Dalmore	3 D.	R. Englemann, Walpeup
Major Laddie	4 D.	G. R. Stratton, Echuca
Mallee Shepherd	A. D.	A. B. Burns, Turriff
Mark	4 D.	C. Godward, Mincha
Master Craigie	3 D.	S. Mitchell, Woomelang
Master's Pride	3 D.	R. J. McPherson, junr., Brim
Model	5 D.	W. Steen, Emu Creek
Model King	A. D.	J. Melotte, Huntly North
Myall Punch	4 D.	R. B. Metherall, Sea Lake
Nailstone Barossa	A. D.	O. McCabe, Underbool
November	A. L.	Ramage and Mason, Violet Town
Nuggett II.	A. D.	G. Lord, Eskdale
Ondit	A. D.	Exors. N. Thornley, Hawkesdale
Paul	A. D.	D. A. Zippel, Wonwondah E.
Pedro Pronto	A. L.	G. Stow, Prahran
Peter's Pride	4 D.	Straub and Chislett, Berriwillock
Pettadale's Pride	5 D.	D. Green, junr., Nullawil
Plucky Mac	3 D.	C. R. Malseed, Dartmoor
Powdy	5 D.	R. White, Elmore
Premier's Pride	5 D.	P. Ryan, Chinkapook
Pride of Oak	3 D.	E. Wiltshire Mulcra
Pride of the Plains	A. D.	A. Robertson, Hesse
Pride's Son	5 D.	Mrs. A. Nicholson, Woomelang
Prince	3 D.	M. Findlay, Mincha
Prince	3 D.	Boyd Bros., Koroit
Prince Charlie	A. D.	L. R. Bailey, Pinnaroo
Prince Douglas	5 D.	A. Fithall, Moller
Prince Edward	A. D.	T. Hennessy, Gowangardie
Prince Imperial	A. D.	A. McNee, Nandaly
Prince Radiant	4 D.	H. G. Kruger, Croxton E.
Prince Raven	3 D.	A. McGarry, Nyarrin
Punch	A. D.	W. Earl, Woodside
Punch	A. D.	Mrs. J. McLean, Garfield
Quality Swell	A. D.	C. R. Taylor, Allansford
Radiant Crown	3 D.	A. F. Kruger, Rainbow
Regent	5 D.	C. Nelson, Benalla
Repeater II.	3 D.	A. Engler, Carina
Repeater's Pride	A. D.	Flavel and Pitt, Jeparit
Riverdale	3 D.	A. C. Walder, Watchem
Robin	4 D.	J. Hay, Framlingham
Robin	3 D.	W. P. Roberts, Middle Creek
Royal Baron	A. D.	G. E. Tyler, Sale
Royal Drum	3 D.	A. E. Heath, Sheep Hills
Royal Flush	4 D.	A. A. Moller, Birchip
Royal King	A. D.	D. Gorman, Crossley
Royal Newton	A. D.	J. Warwick, Strathallan
Royal Nugget	3 D.	H. McClelland, Bealiba
Royal Prince	3 D.	S. L. Sharam, Lake Boga
Royalston	A. D.	W. G. Ballantine, Cosgrove
Scotch Mint	4 D.	J. P. Slatter, Boort
Scotland's Duke	A. D.	H. F. Quick, Brim
Scottish Knight	5 D.	J. H. Muller, Nagambie
Scotty	A. P.	E. J. Simmonds, Bendigo
Shepherd Prince	3 D.	R. P. Banko, Simmies P.O.
Signal	A. D.	W. Fletcher, Lake Boga
Sky Sign	4 T.	W. Lakey, Shelbourne
Spring Time	4 D.	J. J. Pedder, Benetook
Stirling	3 D.	R. D. Buckley, Gerang
Sweet Bells	3 P.	H. Elliott, Camperdown
Terrick Logan	3 D.	M. Daffey, Mitiamo
The Rising Tide	4 D.	J. Bagnell, Mologa
Thornley's Pride	3 D.	M. W. Carey, Glengarry
Waironga's Pride	3 D.	R. Hynam, Patchewollock
Warook	4 P.	J. V. McKenzie, Wonga
Warrior	5 D.	R. Walpole, Cheerilong
Werndew Golden Chance	5 D.	R. A. Perkins, Rainbow
Widgie	3 D.	Haw and Riegel Bros., Mitiamo
Yangery Prince	3 D.	A. Skilbeck, Southern Cross
Young Baron Argyle	3 D.	J. Kirk, Donald
Young Baron Royal	3 D.	J. G. Mengler, Walpeup
Young Baron's Pride	A. D.	W. A. McDonald, Morkalla
Young Belmont	5 D.	E. Sellars, Meringur
Young McGregor	3 D.	J. A. Caldow, Ouyen
Young Scotty	3 D.	S. Brinsmead, Morwell
Young Toby	5 D.	W. J. Newton, Lower Cape Bridgewater

* *Note.*—Age in years. A., aged; D., draught; L., light; P., pony; T., thoroughbred.

Stallion Parades

Time Table, 1933

Provided that the applications for registration received indicate that a horse will be in attendance there for examination, a parade will be held at each of the following places.

Horses submitted for examination must be sufficiently educated to enable their legs being safely handled by the Examining Veterinary Officer, furthermore the animals' legs should be in a thoroughly clean condition.

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
Every Saturday from July 1 to December 16	Agricultural Offices	10 a.m.		
No. 1.				
Tuesday, July 4 ..	Jeparit Show Grounds	9 a.m. ..	7.22 p.m. (3rd)..	Driving
Tuesday, July 4 ..	Lorquon Railway Station ..	11 a.m. ..	Driving ..	Driving
Tuesday, July 4 ..	Netherby Railway Station ..	12 noon ..	Driving ..	Driving
Tuesday, July 4 ..	Yanac Railway Station	1 p.m. ..	Driving ..	Driving
Tuesday, July 4 ..	Kaniva Commercial Hotel ..	4 p.m. ..	Driving ..	Driving
Wednesday, July 5 ..	Nhill Show Grounds	9 a.m. ..	Driving ..	2.36 p.m.
Thursday, July 6 ..	Dimboola, Wall's Hotel ..	9 a.m. ..	3.27 p.m. (5th)..	2.15 p.m.
No. 2.				
Monday, July 3 ..	Tungamah Railway Station ..	1.30 p.m. ..	12.42 p.m. ..	8.57 p.m.
Tuesday, July 4 ..	Yarrawonga Shire Office ..	11 a.m. ..	9.30 p.m. (3rd)..	2.45 p.m.
Tuesday, July 4 ..	Goorambat Railway Station ..	4.20 p.m. ..	4.20 p.m. ..	Driving
Wednesday, July 5 ..	Benalla Railway Station ..	9.30 a.m. ..	Driving ..	11.23 a.m.
Wednesday, July 5 ..	Rutherglen Railway Station ..	1.35 p.m. ..	1.35 p.m. ..	1.35 p.m.
Wednesday, July 5 ..	Wahgunyah Railway Station ..	2.5 p.m. ..	2.5 p.m. ..	7.10 a.m. (6th)
Thursday, July 6 ..	Barnawartha Railway Station ..	2 p.m. ..	1.21 p.m. ..	3.30 p.m.
No. 3.				
Tuesday, July 4 ..	Sea Lake, Royal Hotel	9 a.m. ..	7.15 p.m. (3rd)..	Driving
Tuesday, July 4 ..	Nyarrin Railway Station ..	11 a.m. ..	Driving ..	Driving
Tuesday, July 4 ..	Nandaly Railway Station ..	12 noon ..	Driving ..	Driving
Tuesday, July 4 ..	Speed Railway Station	2.30 p.m. ..	Driving ..	Driving
Tuesday, July 4 ..	Lascelles Railway Station ..	4 p.m. ..	Driving ..	Driving
Wednesday, July 5 ..	Woomelang, Commercial Hotel ..	9 a.m. ..	Driving ..	Driving
Wednesday, July 5 ..	Berriwillock Railway Station ..	12 noon ..	Driving ..	Driving
Wednesday, July 5 ..	Culgoa, Kaneira Hotel	2 p.m. ..	Driving ..	Driving
Wednesday, July 5 ..	Nullawil Railway Station ..	3 p.m. ..	Driving ..	Driving
Thursday, July 6 ..	Wycheproof Railway Station ..	10 a.m. ..	Driving ..	12.25 p.m.
No. 4.				
Tuesday, July 4 ..	Hamilton Police Station ..	3 p.m. ..	6 p.m. (3rd) ..	5.15 p.m.
Wednesday, July 5 ..	Coleraine, Coleraine Hotel ..	10 a.m. ..	6.30 p.m. (4th)..	Driving
Wednesday, July 5 ..	Casterton, Albion Hotel ..	4 p.m. ..	Driving ..	Driving
Thursday, July 6 ..	Branxholme Railway Station ..	3 p.m. ..	Driving ..	5.25 p.m.
Friday, July 7 ..	Heywood Railway Station ..	9 a.m. ..	6.29 p.m. (6th)..	Driving
Friday, July 7 ..	Portland Post Office	9.30 a.m. ..	Driving ..	11 a.m.
No. 5.				
Monday, July 10 ..	Maryborough Railway Station ..	1 p.m. ..	12.30 p.m. ..	10 p.m.
Monday, July 10 ..	Avoca Railway Station	3 p.m. ..	Driving ..	Driving
Tuesday, July 11 ..	Mildura Railway Station ..	9 a.m. ..	7 a.m. ..	Driving
Tuesday, July 11 ..	Carwarp Railway Station ..	10.30 a.m. ..	Driving ..	Driving
Tuesday, July 11 ..	Nowingi Railway Station ..	11 a.m. ..	Driving ..	Driving
Tuesday, July 11 ..	Hattah-road Junction	12 noon ..	Driving ..	Driving
Tuesday, July 11 ..	Trinita Railway Station ..	12.30 p.m. ..	Driving ..	Driving
Tuesday, July 11 ..	Ouyen Show Grounds	2 p.m. ..	Driving ..	Driving

STALLION PARADES, TIME TABLE—*continued.*

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
No. 5—*continued.*				
Tuesday, July 11	Tiega Post Office	3.45 p.m.	Driving	Driving
Tuesday, July 11	Galah Railway Station	4.15 p.m.	Driving	Driving
Wednesday, July 12	Walpeup Railway Station	9 a.m.	Driving	Driving
Wednesday, July 12	Torrita Railway Station	9.45 a.m.	Driving	Driving
Wednesday, July 12	Underbool Railway Station	10.30 a.m.	Driving	Driving
Wednesday, July 12	Linga Railway Station	11.15 a.m.	Driving	Driving
Wednesday, July 12	Boinka Railway Station	11.45 a.m.	Driving	Driving
Wednesday, July 12	Tutye Railway Station	12.15 p.m.	Driving	Driving
Wednesday, July 12	Cowangie Railway Station	12.45 p.m.	Driving	Driving
Wednesday, July 12	Danyo Railway Station	1.15 p.m.	Driving	Driving
Wednesday, July 12	Murrayville Railway Station	2.30 p.m.	Driving	Driving
Wednesday, July 12	Carina Railway Station	3 p.m.	Driving	Driving
Wednesday, July 12	Panitya Railway Station	3.30 p.m.	Driving	Driving
Thursday, July 13	Morkalla Railway Station	11 a.m.	Driving	Driving
Thursday, July 13	Meringur Railway Station	12 noon	Driving	Driving
Thursday, July 13	Bambill Railway Station	1.15 p.m.	Driving	Driving
Thursday, July 13	Werrimul Railway Station	2 p.m.	Driving	Driving
Thursday, July 13	Merrinee-road Junction	3 p.m.	Driving	Driving
Thursday, July 13	Pirlta-road Junction	3.30 p.m.	Driving	Driving
Thursday, July 13	Benetook-road Junction	4 p.m.	Driving	Driving
No. 6.				
Monday, July 10	Kyabram Railway Station	12 noon	12 noon	Driving
Monday, July 10	Tongala Hotel	2 p.m.	Driving	4.42 p.m.
Tuesday, July 11	Tatura Show Grounds	12 noon	5.33 p.m. (10th)	5.33 p.m.
Wednesday, July 12	Euroa Railway Station	10.20 a.m.	10.20 a.m.	11.1 a.m.
Wednesday, July 12	Seymour Railway Station	1.30 p.m.	12 noon	5.55 p.m.
Thursday, July 13	Wangaratta Show Grounds	9 a.m.	8.14 p.m. (12th)	Driving
Thursday, July 13	Moyhu	11 a.m.	Driving	Driving
Thursday, July 13	Myrtleford Railway Station	1 p.m.	Driving	Driving
Thursday, July 13	Beechworth, Tanswell's Hotel	2.30 p.m.	2.30 p.m.	7.55 a.m. (14th)
No. 7.				
Monday, July 10	St. Arnaud Show Grounds	3 p.m.	3 p.m.	11.40 p.m.
Tuesday, July 11	Donald Railway Station	2 p.m.	12.25 a.m.	5.30 p.m.
Wednesday, July 12	Birchip, Shamrock Hotel	9 a.m.	7.10 p.m. (11th)	Driving
Wednesday, July 12	Watchem Hotel	11 a.m.	Driving	12.14 p.m.
No. 8.				
Tuesday, July 11	Natimuk Railway Station	11.5 a.m.	11.5 a.m.	11.30 a.m.
Tuesday, July 11	Gymbowen Railway Station	1 p.m.	1 p.m.	Driving
Tuesday, July 11	Goroke Railway Station	1.15 p.m.	Driving	5.15 p.m.
Tuesday, July 11	Edenhope Sale Yards	3 p.m.	Driving	Driving
Wednesday, July 12	Horsham, Young Bros.' Sale Yards	8 a.m.	8.20 p.m. (11th)	3.50 p.m.
Thursday, July 13	Ararat Railway Station	10 a.m.	8.35 p.m. (12th)	Driving
Thursday, July 13	Maroona Railway Station	12 noon	Driving	Driving
Thursday, July 13th	Beaufort Railway Station	4.22 p.m.	4.22 p.m.	8.27 a.m. (14th)
Friday, July 14	Stawell Railway Station	11.10 a.m.	11.10 a.m.	2.30 p.m.
No. 9.				
Tuesday, July 18	Koondrook Hotel	11.30 a.m.	Driving	Driving
Tuesday, July 18	Kerang, Kerang Hotel	9 a.m.	3.25 p.m. (17th)	3.55 p.m.
Wednesday, July 19	Nyah Railway Station	9.15 a.m.	Driving	Driving
Wednesday, July 19	Piangil Railway Station	10 a.m.	Driving	Driving
Wednesday, July 19	Bannerton Railway Station	1.30 p.m.	Driving	Driving
Wednesday, July 19	Margooya Railway Station	1.45 p.m.	Driving	Driving
Wednesday, July 19	Annuello Railway Station	2 p.m.	Driving	Driving
Wednesday, July 19	Koimbo Railway Station	2.15 p.m.	Driving	Driving
Wednesday, July 19	Bolton Railway Station	2.30 p.m.	Driving	Driving
Wednesday, July 19	Manangatang Railway Station	4 p.m.	Driving	Driving
Thursday, July 20	Cocamba Railway Station	10 a.m.	Driving	Driving
Thursday, July 20	Chinkapook Railway Station	10.15 a.m.	Driving	Driving
Thursday, July 20	Chillingollah Railway Station	10.30 a.m.	Driving	Driving
Thursday, July 20	Waitchie Railway Station	11 a.m.	Driving	Driving

STALLION PARADES, TIME TABLE—*continued.*

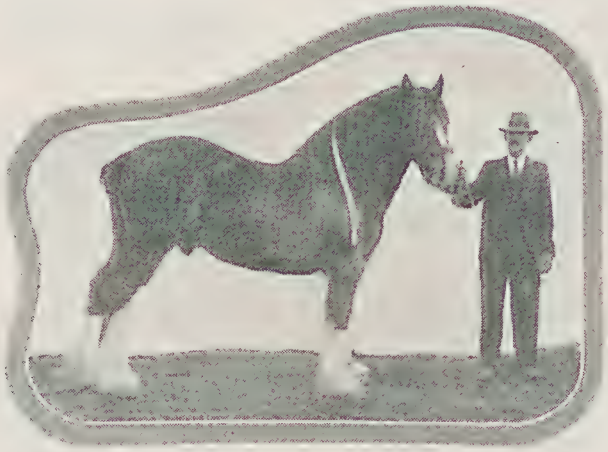
No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs
No. 9—*continued.*				
Thursday, July 20	Gowanford Railway Station	11.15 a.m.	Driving	Driving
Thursday, July 20	Ultima Railway Station	1 p.m.	Driving	Driving
Thursday, July 20	Lalbert Railway Station	2.30 p.m.	Driving	Driving
Friday, July 21	Swan Hill Show Grounds	10 a.m.	Driving	11.40 a.m.
No. 10.				
Monday, July 17	Murchison Railway Station	10.30 a.m.	10.30 a.m.	10.48 a.m.
Monday, July 17	Rushworth Railway Station	11.28 a.m.	11.28 a.m.	5.20 p.m.
Tuesday, July 18	Shepparton Show Grounds	10 a.m.	8.10 p.m. (17th)	Driving
Tuesday, July 18	Dookie Railway Station	12.40 p.m.	Driving	Driving
Tuesday, July 18	Katamatite Railway Station	2.5 p.m.	Driving	Driving
Wednesday, July 19	Nagambie Railway Station	9 a.m.	7.10 p.m. (18th)	9.55 a.m.
Wednesday, July 19	Nathalia Railway Station	2 p.m.	1.27 p.m.	3.20 p.m.
Thursday, July 20	Numurkah, Shamrock Hotel	10 a.m.	4.13 p.m. (19th)	12.19 p.m.
Thursday, July 20	Strathmerton Railway Station	12.42 p.m.	12.42 p.m.	12.55 p.m.
Thursday, July 20	Cobram Railway Station	1.35 p.m.	1.35 p.m.	3.30 p.m.
No. 11.				
Monday, July 17	Port Fairy, Star of the West Hotel	3.35 p.m.	3.35 p.m.	Driving
Tuesday, July 18	Koroit, Koroit Inn Hotel	11 a.m.	Driving	Driving
Tuesday, July 18	Hawkesdale Hotel	1.30 p.m.	Driving	Driving
Tuesday, July 18	Penshurst Police Station	3 p.m.	Driving	Driving
Tuesday, July 18	Caramut	4 p.m.	Driving	Driving
Wednesday, July 19	Warrnambool Railway Station	10 a.m.	Driving	Driving
Wednesday, July 19	Terang, Macdonald's Yard	2.30 p.m.	Driving	Driving
Wednesday, July 19	Mortlake, Mt. Shadwell Hotel	3.30 p.m.	Driving	Driving
Thursday, July 20	Camperdown, Dalgety's Yards	10 a.m.	4.40 p.m. (19th)	Driving
Thursday, July 20	Timboon Railway Station	1.45 p.m.	Driving	Driving
Thursday, July 20	Cobden Railway Station	4.5 p.m.	Driving	Driving
No. 12.				
Monday, July 17	Boort Railway Station	4.5 p.m.	4.5 p.m.	4.30 p.m.
Tuesday, July 18	Quambatook Hotel	10 a.m.	5.30 p.m. (17th)	Driving
Tuesday, July 18	Gredgwin Railway Station	11 a.m.	Driving	12 noon
Wednesday, July 19	Charlton, Cricket Club Hotel	10 a.m.	3.53 p.m. (18th)	1.30 p.m.
Wednesday, July 19	Korongvale Railway Station	2.45 p.m.	2.45 p.m.	3.25 p.m.
Wednesday, July 19	Inglewood Railway Station	4.15 p.m.	4.15 p.m.	1.29 p.m. (20th)
Thursday, July 20	Wedderburn Railway Station	2.35 p.m.	2.35 p.m.	3.10. p.m.
No. 13.				
Tuesday, July 25	Rochester Fire Station	10 a.m.	10.28 p.m. (24th)	1.23 p.m.
Tuesday, July 25	Echuca Railway Station	2.5 p.m.	2.5. p.m.	3.45 p.m.
Wednesday, July 26	Elmore, Mitchie-street	10.30 a.m.	4.55 p.m. (25th)	1.10. p.m.
Wednesday, July 26	Cohuna Show Grounds	3.40 p.m.	3.40 p.m.	10.30 a.m. (27th)
No. 14.				
Monday, July 24	Alexandra Police Station	2 p.m.	12.30 p.m.	4.35 p.m.
Tuesday, July 25	Yea Railway Station	9 a.m.	6.25 p.m. (24th)	10.25 a.m.
Tuesday, July 25	Mansfield, Delatite Hotel	2.30 p.m.	1.40 p.m.	3.30 p.m.
Wednesday, July 26	Wodonga Railway Station	1.40 p.m.	1.40 p.m.	2.10 p.m.
Wednesday, July 26	Tallangatta Railway Station	3.48 p.m.	3.48 p.m.	Driving
Thursday, July 27	Corryong, Court House Hotel	10 a.m.	Driving	Driving
Thursday, July 27	Eskdale Hotel	3 p.m.	Driving	Driving
No. 15.				
Monday, July 24	Murtoa Railway Station	3.40 p.m.	3.40 p.m.	Driving
Tuesday, July 25	Marnoo Railway Station	11 a.m.	Driving	Driving
Tuesday, July 25	Rupanyup Railway Station	1 p.m.	Driving	Driving
Wednesday, July 26	Patchewollock Railway Station	9 a.m.	Driving	Driving
Wednesday, July 26	Hopetoun, Club Hotel	11 a.m.	Driving	Driving
Wednesday, July 26	Yaapeet Railway Station	2.30 p.m.	Driving	Driving
Wednesday, July 26	Rainbow, Commonwealth Hotel	3.30 p.m.	Driving	Driving
Thursday, July 27	Beulah Show Grounds	10 a.m.	Driving	11.40 a.m.
Thursday, July 27	Minyip, Club Hotel	2.45 p.m.	2.45 p.m.	12.16 p.m. (28th

STALLION PARADES, TIME TABLE—*continued.*

No and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
No. 16.				
Tuesday, July 25 ..	Geelong, J. J. Burns' Horse Bazaar	2 p.m. ..	12.5 p.m. ..	Driving
Tuesday, July 25 ..	Bannockburn Railway Station ..	3 p.m. ..	Driving ..	Driving
Tuesday, July 25 ..	Inverleigh Railway Station ..	4 p.m. ..	Driving ..	Driving
Wednesday, July 26 ..	Cressy Railway Station	10.40 a.m. ..	10.40 a.m. ..	10.56 a.m.
Wednesday, July 26 ..	Vite Vite Railway Station ..	12.22 p.m. ..	12.22 p.m. ..	4.31 p.m.
Wednesday, July 26 ..	Lismore Railway Station ..	5.14 p.m. ..	5.14 p.m. ..	Driving
No. 17.				
Monday, July 31 ..	Colac, Butter Factory	10.5 a.m. ..	10.5 a.m. ..	11.30 a.m.
Monday, July 31 ..	Beech Forest Railway Station ..	2.50 p.m. ..	2.50 p.m. ..	1.30 p.m. (1st)
Wednesday, August 2 ..	Winchelsea Railway Station ..	10 a.m. ..	6.42 p.m. (1st)	11.6 a.m.
Wednesday, August 2 ..	Werribee Railway Station ..	1 p.m. ..	1 p.m. ..	2.20 p.m.
Wednesday, August 2 ..	Lara Railway Station	2.45 p.m. ..	2.45 p.m. ..	4.37 p.m.
Thursday, August 3 ..	Birregurra Railway Station ..	10.39 a.m. ..	10.39 a.m. ..	7.52 p.m.
No. 18.				
Tuesday, August 1 ..	Mitiamo Railway Station ..	1.38 p.m. ..	1.38 p.m. ..	1.54 p.m.
Tuesday, August 1 ..	Pyramid Railway Station ..	2.20 p.m. ..	2.20 p.m. ..	3.22 p.m.
Wednesday, August 2 ..	Raywood Railway Station ..	11 a.m. ..	5.3 p.m. (1st) ..	12.50 p.m.
Wednesday, August 2 ..	Tandarra Railway Station ..	1.4 p.m. ..	1.4 p.m. ..	4.42 p.m.
Thursday, August 3 ..	Bendigo Show Grounds	10 a.m. ..	6.10 p.m. (2nd)	Driving
Thursday, August 3 ..	Eddington Hotel	1 p.m. ..	Driving ..	Driving
Thursday, August 3 ..	Eastville	2 p.m. ..	Driving ..	Driving
Thursday, August 3 ..	Baringhup	2.30 p.m. ..	Driving ..	Driving
Thursday, August 3 ..	Maldon Railway Station ..	3.30 p.m. ..	Driving ..	Driving
Thursday, August 3 ..	Newstead Railway Station ..	4.30 p.m. ..	Driving ..	Driving
Thursday, August 3 ..	Castlemaine Railway Station ..	5.15 p.m. ..	Driving ..	7.43 p.m.
No. 19.				
Monday, July 31 ..	Morwell Railway Station ..	11.42 a.m. ..	11.42 a.m. ..	Driving
Monday, July 31 ..	Traralgon Railway Station ..	3 p.m. ..	Driving ..	Driving
Tuesday, August 1 ..	Rosedale Railway Station ..	10 a.m. ..	Driving ..	Driving
Tuesday, August 1 ..	Kilmany Railway Station ..	11 a.m. ..	Driving ..	Driving
Tuesday, August 1 ..	Sale Railway Station	12 noon ..	Driving ..	Driving
Tuesday, August 1 ..	Maffra Railway Station ..	2 p.m. ..	Driving ..	Driving
Tuesday, August 1 ..	Cowwarr Railway Station ..	3 p.m. ..	Driving ..	Driving
Wednesday, August 2 ..	Warragul Show Grounds ..	11 a.m. ..	10.30 a.m. ..	Driving
Wednesday, August 2 ..	Neerim	2 p.m. ..	Driving ..	Driving
Thursday, August 3 ..	Bunyip Railway Station ..	10.1 a.m. ..	10.1 a.m. ..	11.13 a.m.
Thursday, August 3 ..	Dandenong Railway Station ..	12.24 p.m. ..	12.24 p.m. ..	1 p.m.
No. 20.				
Tuesday, August 1 ..	Wallace Railway Station ..	10.27 a.m. ..	10.27 a.m. ..	11.20 a.m.
Tuesday, August 1 ..	Ballan Railway Station ..	11.49 a.m. ..	11.49 a.m. ..	Driving
Tuesday, August 1 ..	Bacchus Marsh, Border Inn Hotel	2 p.m. ..	Driving ..	Driving
Tuesday, August 1 ..	Melton Railway Station ..	4 p.m. ..	Driving ..	8.4 p.m.
Wednesday, August 2 ..	Mernda Railway Station ..	10.21 a.m. ..	10.21 a.m. ..	11.2 a.m.
Thursday, August 3 ..	Lilydale Railway Station ..	2 p.m. ..	1.59 p.m. ..	4.56 p.m.
No. 21.				
Wednesday, August 2 ..	Romsey Railway Station ..	10.30 a.m. ..	10.30 a.m. ..	1.15 p.m.
No. 22.				
Monday, August 7 ..	Daylesford, Raglan Hotel ..	12 noon ..	11.10 a.m. ..	2 p.m.
Monday, August 7 ..	Kingston Hotel	3.25 p.m. ..	3.25 p.m. ..	Driving
Monday, August 7 ..	Clunes Post Office	4 p.m. ..	Driving ..	Driving
Monday, August 7 ..	Creswick Post Office	4.30 p.m. ..	Driving ..	6.40 a.m. (8th)
Tuesday, August 8 ..	Waubra	10 a.m. ..	Driving ..	Driving

STALLION PARADES, TIME TABLE—*continued.*

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
No. 22—*continued.*				
Tuesday, August 8	Burrumbeet	11 a.m.	Driving	Driving
Tuesday, August 8	Trawalla	12 noon	Driving	Driving
Tuesday, August 8	Skipton	2 p.m.	Driving	Driving
Tuesday, August 8	Linton	3 p.m.	Driving	Driving
Wednesday, August 9	Ballarat, Haymarket	10 a.m.	Driving	10.55 a.m.
Thursday, August 10	Kyneton Show Grounds	10 a.m.	9.51 a.m.	Driving
Thursday, August 10	Redesdale Hotel	12 noon	Driving	Driving
No. 23.				
Monday, August 7	Wonthaggi Railway Station	10.40 a.m.	10.40 a.m.	Driving
Monday, August 7	Anderson Railway Station	2 p.m.	Driving	Driving
Tuesday, August 8	Korumburra Railway Station	10 a.m.	9 p.m. (7th)	11.1 a.m.
Tuesday, August 8	Foster Railway Station	12.50 p.m.	12.50 p.m.	1.16 p.m.
Tuesday, August 8	Yarram Sale Yards	3 p.m.	2.15 p.m.	7 a.m. (9th)
Wednesday, August 9	Stony Creek Railway Station	9 a.m.	8.57 a.m.	Driving
Wednesday, August 9	Leongatha Railway Station	9.25 a.m.	Driving	9.35 a.m. (10th)
Friday, August 11	Cranbourne Railway Station	9 a.m.	8.3 a.m.	10.35 a.m.
No. 24.				
Tuesday, August 8	Orbost, Club Hotel	9 a.m.	7 p.m. (7th)	10.10 a.m.
Tuesday, August 8	Bairnsdale Sale Yards	1.45 p.m.	1.45 p.m.	Driving
Wednesday, August 9	Omeo, Golden Age Hotel	8 a.m.	Driving	Driving
Wednesday, August 9	Ensay South	10 a.m.	Driving	Driving
Thursday, August 10	Buchan	8 a.m.	Driving	Driving
No. 25.				
Thursday, August 10	Warracknabeal Show Grounds	9 a.m.	5.20 p.m. (9th)	1.35 p.m.
No. 26.				
Monday, August 14	Frankston Railway Station	12.51 p.m.	12.51 p.m.	2.20 p.m.
Tuesday, August 15	Kilmore, Royal Oak Hotel	9 a.m.	8.43 a.m.	Driving
Wednesday, August 16	Sunbury Show Grounds	11 a.m.	8.42 a.m.	2.50 p.m.
No. 27.				
Wednesday, Sept. 20	Royal Show	10 a.m.		
Thursday, Sept. 21	Royal Show	9 a.m.		



Standard Herd Records

For Quarter Ended 31st March, 1933

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 440, of which 364 qualified for the certificate. The figure in brackets after the owner's name shows the number of entries that qualified for the certificate.

The amount of butter fat required for qualification varies according to the age of the animal (up to 5 years at time of calving), the standards being as follow :—

Junior 2 year old (under 2½ years at time of calving)	230 lb. butter fat.
Senior 2 year old (between 2½ and 3 years at time of calving)	250 lb. butter fat.
Junior 3 year old (between 3 and 3½ years at time of calving)	270 lb. butter fat.
Senior 3 year old (between 3½ and 4 years at time of calving)	290 lb. butter fat.
Junior 4 year old (between 4 and 4½ years at time of calving)	310 lb. butter fat.
Senior 4 year old (between 4½ and 5 years at time of calving)	330 lb. butter fat.
Mature cow 5 years and over	350 lb. butter fat.

(Except where otherwise stated, the period of Test was 273 days.)

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Allen, F. de Vere, Toora, Jersey (2).											
Wood Model	36775	11.5.32	13½	6,458	5·54	357·60	230	Jr. 2	..	..	Skim of Blackwood Valley
Wood Surprise	36776	25.5.32	18	6,407	5·64	361·57	230	Jr. 2	..	..	Skim of Blackwood Valley
Toora Vale Milkmaid 2nd	23190	24.6.32	14	5,618	6·15	345·29	350	Mature	..	288, 315, 333	Welkin of Melrose
Allwood, A., Stanhope, Friesian (1).											
Draycott Belle Sylvia	3427	28.11.31	25½	8,918	3·63	323·78	250	Sr. 2	..	*	Darenth Bell Boy
Archibald, L., Tongala East, Jersey (2).											
Carinya Rosalie	32887	5.6.32	19	8,204	4·20	344·33	250	Sr. 2	..	209	Maiwand Mischief
Carinya Lady May	36808	22.6.32	13	6,415	5·50	352·53	230	Jr. 2	..	..	Sundance Alloy
Atherton, W. H., Murraydale, Jersey (1).											
Beverley Carnation	25729	24.6.32	23	7,920	6·08	481·14	350	Mature	..	335, 323	Carnation Bosum of Peri
Atkinson, W. K., Swan Hill, Dairy Shorthorn (9).											
Willow Park Comet 2nd	Vol. 1, D.S.H.B.	3.4.32	24½	9,173	3·69	338·55	350	Mature	..	239, 311, 363, 348	Count of Willow Park
Willow Park Duchess 15	Vol. 1	5.4.32	20	6,438	4·05	260·73	230	Jr. 2	..	..	Eminent of Willow Park
Willow Park Comet 7th	Vol. 1	9.4.32	24	7,109	4·00	284·09	230	Jr. 2	..	..	Design of Willow Park
Willow Park Queenie 26th	Vol. 1	24.4.32	22½	6,429	4·06	260·97	230	Jr. 2	..	..	Havelock of Darbalara
Willow Park Blanche 9th	Vol. 1	26.4.32	12	6,161	4·35	267·99	230	Jr. 2	..	..	Reflector of Willow Park
Willow Park Dulcie 2nd	Vol. 1	29.5.32	38½	13,796	3·83	528·74	350	Mature	..	320, 362, 415, 478	Willow Park Reliance
Willow Park Camelia 2nd	Vol. 1	30.5.32	33½	11,405	3·85	438·57	350	Mature	..	288, 376, 427, 415	Diamond of Willow Park
Willow Park Countess 7th	Vol. 1	5.6.32	16	7,001	4·31	301·60	290	Sr. 3	..	233	Reflector of Willow Park
Willow Park Camelia	Vol. 1	17.6.32	43½	14,607	3·93	573·55	350	Mature	..	384, 441, 515, 539, 615	Count of Willow Park
Willow Park Dainty 4th	Vol. 1	18.6.32	24	8,207	4·06	333·01	250	Sr. 2	..	..	Willow Park Eminent
Willow Park Melba	Vol. 1	18.6.32	19½	8,562	3·81	326·51	350	Mature	..	285, 285, 341	Count of Willow Park
Austin, F., Lara, Jersey (6).											
Avalon Nobles Pansy 5th	36835	3.5.32	12½	3,804	6·22	236·73	230	Jr. 2	..	..	Noble of Avalon
Avalon Gladstar's Beauty 5th	36821	22.5.32	11	4,566	6·41	292·88	230	Jr. 2	..	..	Avalon Gladstar 2nd
Avalon Nobles Belle 8th	Vol. 20	24.5.32	12	5,985	5·84	349·50	250	Sr. 2	..	..	Noble of Avalon
Avalon Mercedes 16th Queen	36827	24.5.32	13½	5,445	6·50	353·90	230	Jr. 2	..	..	Mercedes Chief 16th
Avalon Nobles Daisy 2nd	32907	25.5.32	15	7,139	6·30	449·52	250	Sr. 2	..	..	Noble of Avalon
Avalon Mercedes Pansy 6th	28405	18.6.32	18	7,890	5·23	412·61	330	Sr. 4	..	..	Mercedes Chief of Glen Iris
Axford, W. H., Camperdown, Jersey (8).											
Leura Picaninny 4th	28865	2.4.32	17	5,424	5·68	308·10	290	Sr. 3	..	..	Monitor of Leura
Patricia of Leura	18625	22.4.32	32½	11,769	5·39	634·36	350	Mature	..	336, 408	Grant of Melrose
Leura Handsome Girl 2nd	25238	24.4.32	14	6,960	5·48	381·07	330	Sr. 4	..	..	Grant of Melrose
Doreen of Springvale	21162	28.4.32	16	7,037	5·68	399·82	350	Mature	..	375	Sweet Fox of Springvale
Leura Myrtle 3rd	C.R.	30.4.32	16	6,138	6·30	386·73	290	Sr. 3	..	..	Curiosity's King of Comely Banks
Leura Beauty 9th	36837	2.5.32	15	5,958	6·30	375·30	250	Sr. 2	..	..	Curiosity's King of Comely Banks
Leura Elaine 2nd	24233	13.6.32	16	6,176	6·83	421·82	350	Mature	..	319, 383	Admiral of Leura
May Queen of Spring Vale	21164	25.6.32	21	8,958	5·32	476.52	350	Mature	..	..	Merry Duke of St. Albans

* Omitted from December, 1932, Report.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Ballarat Orphanage, Ballarat, Jersey (3).											
Orphanage Jessie 2nd ..	32928	27 4.32	13	5,696	5·02	285·71	230	Jr. 2	..	..	Orphanage Quicksand Prince
Orphanage V.C.Quicksand 2nd	36862	1.5.32	9½	3,896	5·80	226·07	230	Jr. 2	..	..	Wompini V.C.
Trawalla Clara 10th ..	37866	10.5.32	19	7,498	5·64	422·95	230	Jr. 2	..	..	Kyora Substitute
Delmont's Delight ..	Vol.20	28.5.32	19½	8,298	6·06	502·82	250	Sr. 2	..	..	Air Poise of Banyule
Barber Bros., Somerville, Jersey (1).											
Somerville Valdera ..	28987	14.5.32	14½	7,107	5·5	372·90	330	Sr. 4	..	365	Rosella's Lad of Somerville
Bassett-Smith, C., Kyabram, Red Poll (1).											
Victoria Plume ..	2331A	26.5.32	24	7,650	4·66	356·63	310	Jr. 4	..	295	Victoria Bit O'Bacca
Bazeley Bros., Tatura, Jersey (1).											
Burfield Daphne ..	31792	22.4 32	21½	6,867	5·45	373·99	350	Mature	..	..	Winsome's Mike of Cullenbone
Belfield, G. H., Coleraine, Jersey (2).											
Wootong Vale Vanilla's Princess	25760	7.4.32	15	7,082	5·67	401·30	330	Sr. 4	..	301, 321	Vanilla 2nd of Tavistock
Wootong Vale Gold Carnation	21114	12.5.32	16	7,395	5·59	413·04	350	Mature	..	356, 403, 483, 418	Gold Prince of Clover Flat
Black, Mrs. A. J., Noorat, Jersey (6).											
Noorat Gazelle ..	25268	1.4.32	16	7,745	5·57	431·69	330	Sr. 4	..	262, 274	Cellist of Warenda
Noorat Geranium ..	25269	6.4.32	15	6,369	5·93	377·41	310	Jr. 4	..	288, 341	Cellist of Warenda
Noorat Sunny	32995	1.5.32	15½	6,518	5·87	382·40	290	Sr. 3	..	273	Cellist of Warenda
Noorat Anemone ..	36910	1.6.32	11	5,523	6·54	361·13	230	Jr. 2	..	..	Noorat Musician
Noorat Gay Girl ..	32988	1.6.32	10	5,750	5·71	328·38	270	Jr. 3	..	256	Cellist of Warenda
Noorat Sunbeam ..	32994	1.6.32	20	9,033	5·24	473·13	270	Jr. 3	..	331	Cellist of Warenda
Black, I. S., Noorat, Ayrshire (2).											
*Ben Kell Pandora ..	15732	5.4.32	4	7,005	3·85	269·87	350	Mature	..	296, 274, 292	Warrior of Ben Kell
Mount Noorat Pyrene ..	23140	18.4.32	11	6,384	4·08	260·33	270	Jr. 3	..	231	Ben Kell Hot Stuff
Ben Kell Poppy 3rd ..	17318	24.4.32	11	6,729	4·78	321·44	330	Sr. 4	..	275, 270	Ben Kell True Line
Purity of Ben Kell ..	15737	12.5.32	14	7,784	4·22	328·83	350	Mature	..	262, 242, 283	Pender of Ben Kell
Mount Noorat Georgette	23137	1.6.32	18	10,866	3·80	413·29	270	Jr. 3	..	267	Sparrowvale Ranger
Mount Noorat Poppy ..	24148	14.6.32	16½	7,266	4·05	294·10	230	Jr. 3	..	..	Sparrowvale Brilliant
Bolton, Sloan, Mannerim, Jersey (7).											
Glen Mavis Sunflower ..	33005	30.3.32	9	2,936	6·47	189·97	230	Jr. 2	..	..	Banyule Plant
Glen Mavis Noble Gift ..	25285	1.4.32	24½	7,098	6·85	486·04	310	Jr. 4	..	319, 377	Noble Airman of Banyule
Glen Mavis Noble Sunbeam	33002	6.4.32	17½	5,267	6·16	324·29	250	Sr. 2	..	252	Banyule Plant
Glenmavis Greylady ..	25283	19.4.32	N.O.C.	10,209	4·62	471·30	290	Sr. 3	..	407	Clyde King 3rd of Rosedale View
Glenmavis Pixie ..	28473	7.5.32	21	6,833	6·17	421·75	250	Sr. 2	..	295	Banyule Plant
Glenmavis Princess Anne	33003	23.5.32	12½	4,792	4·88	233·84	230	Jr. 4	..	..	Banyule Plant
Rosie of Enterprize ..	21146	27.5.32	20	8,941	5·01	447·96	350	Mature	..	271, 344, 395, 414, 416	Royal Gem of Somerville
Glenmavis' Nancy ..	25284	18.6.32	30	12,140	5·25	637·15	310	Jr. 4	..	356, 403	Clyde King 3rd of Rosedale View
Bott, J. and N., Yarrawonga, Red Poll (2).											
Woodburn Favourite ..	2104AA	29.4.32	20	8,657	4·32	373·77	290	Sr. 3	..	..	Whiteway Wiseman
Naranghi Wildflower ..	3283D	6.5.32	21	6,200	4·83	299·32	230	Jr. 2	..	..	Woodburn Premier
Box, Dr. J., Whittlesea, Jersey (2).											
Toorongo Queen Bess ..	33010	7.5.32	18	5,747	6·18	355·45	230	Jr. 2	..	..	Ruhbank Larkspur's Admiral
Edmonton Chevy ..	33210	7.6.32	17½	7,506	6·18	463·88	290	Sr. 3	..	328	Big Chief of Glen Iris
Boyes, Chas., Leneva West, via Wodonga, Jersey (2).											
Kintore Fox's Snowdrop 2nd	C.R.	22.6.32	22	7,088	4·93	349·67	230	Jr. 2	..	..	Kintore's Clementine's King
Kintore Butter Queen ..	36950	26.6.32	18	5,542	5·91	327·60	230	Jr. 2	..	..	Kintore's Clementine's King
Broad, A. A., Sutton Grange, Jersey (1).											
Bunty 2nd of Coliban ..	15485	19.6.32	31	12,050	5·12	617·56	350	Mature	..	365, 442, 483, 558, 582, 546, 535	Carrie's Boy of Coliban
Buchanan, J., Flinders, Ayrshire (2).											
Glencira Bairn	18024	25.4.32	10½	8,014	4·27	341·89	350	Mature	..	..	Aristocrat of Glencira
Glencira Honeybread ..	18051	3.6.32	17	9,387	4·05	380·49	350	Mature	..	371	A.I. of Glencira
Glencira Chloe	14458	13.6.32	9½	9,369	4·72	442·37	350	Mature	..	385	Aristocrat of Glencira
Cameron, D., and Sons, Valencia, Jersey (2).											
Terangaville Starbright Butter Queen	26395	7.4.32	N.O.C.	6,739	5·53	372·98	330	Sr. 4	..	302, 350	Werribee Butter King
Studleigh Harebell 9th ..	37012	1.5.32	15	4,124	6·28	259·03	230	Jr. 2	..	..	Studleigh Masterpiece
Cantwell Bros., Nerrena East, Jersey (2).											
Belgonia Blossom 8th ..	33085	13.4.32	17	5,300	5·63	298·40	290	Sr. 3	..	..	Aerial of Banyule
Belgonia Milklass 5th ..	26345	10.5.32	21½	7,205	6·26	450·88	330	Sr. 4	..	..	Aerial of Banyule
Chadderton, J. E., Hamilton, Jersey (2).											
Glen Leigh Dora 2nd ..	28532	22.4.32	20½	7,908	6·32	499·68	270	Jr. 3	..	356	Gadabout of Danton
Glen Leigh Doris 2nd ..	33096	27.6.32	17½	6,005	6·16	369·61	250	Sr. 2	..	..	Strathkellar Topthorn

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Charlton, Jas., Stony Creek, Jersey (0).											
Lumeah Roseleaf ..	37050	19.5.32	8	4,164	5·28	219·67	230	Jr. 2	..	.. ..	Banyule Molloik
Lumeah Marigold ..	24291	14.6.32	10½	5,547	4·96	274·93	350	Mature	..	279, 317, 275, 346	Burnside Invincible
Clarke, A. B., Noorat, Jersey (0).											
Denniston Princess ..	33172	10.6.32	7	4,176	5·47	228·51	270	Jr. 3	..	279 ..	Valiant Prince of Glen Iris
Clark, P. W., Whittlesea, Jersey (2).											
Clovelly Annette 2nd ..	33165	3.5.32	22	7,199	6·09	438·56	330	Sr. 4	..	284 ..	Clovelly Chieftain
Torrumbarry Larkspur ..	37091	24.5.32	16½	6,225	5·38	335·06	350	Mature	..	359 ..	Tally Ho Twylish Lad
Laane Gloria	28572	26.6.32	18½	7,908	5·70	450·65	350	Mature	..	318 ..	Laane Lord Chief
Clyne, J., Upper Maffra West, Jersey (6).											
§Paisley Pearl	37109	5.4.32	19½	5,325	5·03	267·71	270	Jr. 3	..	269 ..	Werribee Master Key
§Paisley Corolla ..	33176	6.4.32	17	6,375	6·12	390·41	250	Sr. 2	..	322 ..	Werribee Master Key
Jersey Vale Larkspur ..	25314	8.4.32	17	7,298	5·49	400·34	350	Mature	..	374, 378 ..	Princess 2nd Twylish of Grangelea
Jersey Vale Flower ..	25312	30.4.32	18½	8,450	4·90	414·05	350	Mature	..	292, 346, 351	Princess 2nd Twylish of Grangelea
Fancy 2nd of Swansea ..	21188	15.5.32	14	5,498	5·16	283·57	350	Mature	..	337, 354, 301	Prince of Belgonia
Paisley Larkspur ..	C.R.	8.6.32	17	5,496	5·13	282·12	230	Jr. 2	..	.. ..	Monopole of Belgonia
Jersey Vale Lupin ..	25316	24.6.32	20½	7,602	5·69	432·37	350	Mature	..	301, 377, 408	Princess 2nd Twylish of Grangelea
Cockbill Bros., Bacchus Marsh, Ayrshire (1).											
Fulham Torture ..	14646	30.4.32	25	9,246	4·31	398·45	350	Mature	..	242, 313, 312, 359	The Laird of Sparrovale
Cockbill Bros., Tongala, Ayrshire (1).											
†Fulham Rosetime ..	20028	7.4.32	4	765	3·67	28·10	270	Jr. 3.	..	.. ..	Oakbank Spotlight
*Fulham Laughter ..	16057	9.4.32	4	3,945	4·10	161·74	350	Mature	..	190, 93, 172	Fulham Future
Oakbank Become ..	15204	21.5.32	N.O.C.	4,269	4·21	179·70	350	Mature	..	196, 188, 232	Lordly of Oakbank
Fulham Connie ..	14639	25.6.32	9	7,917	4·56	360·91	350	Mature	..	230, 265, 291, 288	Fulham Cameron
Colenso, L. W., Alvie, Jersey (7).											
Normandie Mayflower 2nd	33192	28.4.32	16	6,620	6·00	396·92	310	Jr. 4	..	277 ..	Thelma's King of St. Albans
Normandie Mayflower 4th	33194	28.4.32	14½	6,137	6·13	375·97	230	Jr. 2	..	.. ..	Normandie White Peer
Normandie Mayflower 3rd	33193	29.4.32	8	4,909	5·64	276·69	250	Sr. 2	..	290 ..	Peer of Lewisham
Normandie Buttercup 2nd	33188	1.5.32	21	8,045	6·04	486·09	250	Sr. 2	..	317 ..	Peer of Lewisham
Ilma of Hazelbrock ..	18668	5.5.32	30	11,183	5·09	569·00	350	Mature	..	444, 458, 495	Progress of Colac
Glenfield Primrose ..	33187	11.5.32	7	7,544	5·30	399·88	290	Sr. 3	..	268, 220 ..	Glenfield Bosun
Buttercup of Hazelbrock	18665	17.6.32	16½	7,730	5·50	425·25	350	Mature	..	331, 353, 436, 413	Progress of Colac
Combridge, L. H., Almurta, Jersey (0).											
Glenburnie Lady ..	37123	24.4.32	14	4,166	5·37	223·55	230	Jr. 2	..	.. ..	Burnside Lauder
Glenburnie Bridesmaid ..	23040	24.6.32	6	4,113	5·42	222·76	350	Mature	..	.. ..	Lily's Lad of Holmwood
Cook, D. E., Lock, Jersey (1).											
Wattle Vale Spring Queen	28589	1.5.32	12½	5,829	5·90	343·70	290	Sr. 3	..	234 ..	Retford Deer's Noble
Coombes, T. A. P., Tongala, Jersey (1).											
Ivinghoe Buttercup ..	28596	25.6.32	13..	6,654	5·53	367·76	330	Sr. 4	..	268, 178, 286	Belgonia Bright Twylish 2nd
Cooper, H. A., Trafalgar, Jersey (0).											
Glenloch Daffodil ..	37132	8.6.32	8	3,716	6·02	223·78	250	Sr. 2	..	.. ..	Concentration of Banyule
Coughlin, C., Catani, Jersey (1).											
‡Glady's Park Sweet Bell	37141	16.4.32	8½	3,548	5·67	201·06	230	Jr. 2	..	.. ..	Leathorne Maid's Chief
Glady's Park Defenders May	37138	1.5.32	18	5,894	5·73	337·57	250	Sr. 2	..	.. ..	Leathorne Maid's Chief
Cox, A., Mt. Scobie, Jersey (1).											
Audrey's Duchess of Tavistock	21208	4.6.32	20	7,443	5·75	427·61	350	Mature	..	287, 401, 425	Audrey's Prince of Banyule
Crawford, Mrs., Yinnar, Jersey (1.)											
§ Vanilla of Mendip ..	18993	1.5.32	4	4,830	5·89	284·31	350	Mature	..	264, 300 ..	Jessie 13th Count of Melrose
Turro Park Eminent Duchess	Vol. 20	24.5.32	16½	6,582	5·71	375·75	230	Jr. 2	..	.. ..	Aveley Drummer
Davies, J. W., Coalville, Jersey (2).											
Bray Tor Vanity ..	37198	25.4.32	10½	4,995	5·40	269·83	230	Jr. 2	..	.. ..	Pansy's Chief of Leathorne
Clydevale New Year ..	33267	16.5.32	12½	3,875	6·13	237·42	230	Jr. 2	..	.. ..	Staghorn's Master's Defiance
Day, E., Penshurst, Jersey (2).											
View Point Golden Bright	24326	28.5.32	15	8,072	5·94	479·22	350	Mature	..	263, 392, 374	Keepsake's Treasure of Lynuilg
View Point Duchess ..	24325	11.6.32	17	7,763	5·96	462·71	350	Mature	..	314, 359, 334	Keepsake's Treasure of Lynuilg
Department of Agriculture, Burnley, Jersey (1).											
Victoria Flirt	33272	9.5.32	N.O.C.	5,310	6·76	358·73	230	Jr. 2	..	.. ..	Victoria Jack Tar

* 210 days in test. † 60 days in test. ‡ 261 days in test. § 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Department of Agriculture, Werribee, Red Poll (4).											
Victoria Village Belle ..	1522AA	5.4.32	25	9,882	4·28	422·87	350	Mature	..	357, 402, 394	Belligerent
Victoria Guilder ..	2430B	11.4.32	19	7,982	4·96	395·58	350	Mature	..	346, 310	Victoria Air Marshall
Victoria Greta	3023A	19.4.32	17½	5,601	4·58	256·42	230	Jr. 2	..	.. ..	Vice Regal
Victoria Bell Royal ..	2305A	2.6.32	8	7,196	4·80	345·27	310	Jr. 4	..	323, 296 ..	Vice Regal
Desmond, J. J., Rochester, Jersey (3).											
Preston Collarette ..	25352	20.6.32	19	6,782	5·44	368·93	350	Mature	..	235 ..	Perrees Count of Glen Iris
Taranah Fairy	16716	23.6.32	25	9,186	6·07	557·62	350	Mature	..	351, 445, 457, 484, 485, 453, 474	Lily 6th's Son of Melrose
Macroom Ellen ..	37221	25.6.32	17½	5,712	5·12	292·58	230	Jr. 2	..	474 ..	Belgonia Battery
Dobson, R. J. M., Acheron, Jersey (1).											
Wattle Grove Judith ..	28666	27.4.32	17½	7,251	6·00	434·83	290	Sr. 3	..	293 ..	Alert of Farringdon
Dookie Agricultural College, Dookie, Ayrshire (6).											
Dookie Adept	Vol.25	25.4.32	24½	9,339	4·35	405·93	230	Jr. 2	..	.. ..	Longerenong Laurie
Dookie Susan	23675	2.5.32	21½	10,059	4·29	431·75	290	Sr. 3	..	328 ..	Dookie Pater
Dookie Chloe	Vol.25	27.5.32	25	7,818	4·22	329·97	230	Jr. 2	..	.. ..	Majestic of Burwood
Dookie Shirley ..	Vol. 25	27.5.32	27	10,793	4·32	466·30	230	Jr. 2	..	.. ..	Longerenong Laurie
Dookie Flora	17776	28.5.32	27	10,844	4·36	472·63	350	Mature	..	317, 439, 432	Majestic of Burwood
Dookie Ada	17773	27.6.32	31	12,042	3·98	478·77	350	Mature	..	336, 312, 378	Majestic of Burwood
Dowie, A. F. Carisbrook, Jersey (1).											
Brucevale Molly Madeira 2nd	26412	7.4.32	15	6,962	6·11	425·05	350	Mature	..	446 ..	Werribee Madeira's King
Downie Bros., Longwarry South, Ayrshire (2).											
Glen View Bella ..	21603	16.5.32	23½	10,739	4·02	431·71	350	Mature	..	.. ..	Gold Coin of Fairfield Park
*Glen View Isa ..	21610	3.6.32	24	9,000	4·67	419·98	350	Mature	..	302 ..	Gold Coin of Fairfield Park
Glen View Innocence ..	21609	13.6.32	5	5,423	4·28	232·15	310	Jr. 4	..	232 ..	Gowrie Park Dairy Boy
Ducat, P. J., Ardmona, Jersey (1).											
Airlie Isla 4th	37294	15.4.32	9	4,227	5·01	211·81	250	Sr. 2	..	.. ..	Maybe of Banyule
Handsome Girl of Airlie	18696	15.4.32	22½	6,564	5·83	382·80	350	Mature	..	247, 324, 451, 396	Handsome Boy of Airlie
Dwyer, G., Balwyn, Jersey (2).											
Karalee Elma	37301	22.4.32	12	4,055	6·45	261·70	230	Jr. 2	..	.. ..	Karalee Volunteer 4th
*Karalee Zoe	33319	30.5.32	4	3,465	5·16	178·68	290	Sr. 3	..	273, 280 ..	Karalee Duke
Shoreham Linda ..	23117	30.5.32	12½	5,799	6·86	397·80	350	Mature	..	194, 336, 346	Monica 4th Lad of King's Vale
Edwards, T. J., Myrtlebank, Jersey (2).											
Dahlia of Grangelea ..	18595	13.4.32	25½	8,730	5·43	473·75	350	Mature	..	310, 415 ..	Golden Twylish
Chandos Diana ..	29681	4.5.32	21½	7,344	5·79	425·39	250	Sr. 2	..	.. ..	Rosemont Primrose 2nd Noble
Eldridge, A. J., Noorat, Friesian (8).											
St. Alban's Lily's Sylvia ..	2595	15.4.32	18	12,282	4·02	493·44	350	Mature	..	329, 369, 422, 480	Eco Sylv King Pontiac
Spring Vale Cordyline Inka	3218	24.4.32	24	12,969	3·54	459·23	310	Jr. 4	..	383, 350 ..	Bolobek Top Gallant
Burnbank Lady Patch ..	2696	2.5.32	21½	13,977	4·12	575·74	350	Mature	..	406, 362, 417, 421	Rock Patch
Spring Vale Lorna Patch	3219	3.5.32	28	12,582	3·59	451·90	310	Jr. 4	..	374, 293 ..	Burnbank Iona Patch
Kerami Spring Flower ..	2809	8.5.32	7½	10,976	3·53	386·94	350	Mature	..	297, 250, 263	Eco Sylv King Pontiac
Spring Vale Celia Inka ..	3730	12.5.32	19½	10,199	3·99	406·60	290	Sr. 3	..	335 ..	Bolobek Top Gallant
St. Alban's Queen Beauty	2298	28.5.32	13	10,604	3·89	412·39	350	Mature	..	336, 382, 384, 307	St. Alban's May Queen's Netherland Prince
Spring Vale Lilian Sylvia	3732	3.6.32	20	8,948	4·12	369·05	230	Jr. 2	..	.. ..	Bolobek Top Gallant
Emmett, W. H., Stanhope, Jersey (2).											
Taranah Fancy ..	29084	9.4.32	20	6,759	6·70	452·73	290	Sr. 3	..	235, 342 ..	Royal Rose's Choice of Tarnpirr
Five Gums Primrose ..	19917	25.4.32	21	5,925	5·50	326·14	350	Mature	..	370 ..	Lassie Fowler's 5th Son of Melrose
Gem 3rd of Coolwoola ..	21760	11.5.32	19½	6,197	6·50	402·92	350	Mature	..	365 ..	Mercedes Golden Prince of Glen Iris
Tavistock Molly 2nd ..	26034	6.6.32	14½	7,005	4·79	335·37	350	Mature	..	284 ..	Mabel's Lad of Tavistock
Enders, A. E., Stanhope, Friesian (4).											
Burnbank Majoe Woodcrest	3033	2.4.32	28½	12,316	3·79	466·64	350	Mature	..	397, 410, 522	Dominion Joe Segis Matador
Eurobin Alcartra ..	C.R.	15.4.32	24½	8,189	4·39	359·32	250	Sr. 2	..	.. ..	Netherlea Majoe Dutchman
Eurobin Dutch Oak ..	C.R.	17.4.32	22½	6,379	4·37	278·78	230	Jr. 2	..	.. ..	Netherlea Majoe Dutchman
Eurobin Sylvia Girl ..	3439	18.5.32	32	13,655	3·50	478·56	330	Sr. 4	..	330, 403, 500	Burnbank Inka Sylvia Galatea

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Enders, N. W., Stanhope, Jersey (2).											
Myra of the Wattles ..	12917	22.4.32	27	11,528	5·19	597·77	350	Mature	..	592, 619, 633, 539	Laddie 2nd of Banyule
The Wattles Romany Girl	37349	20.5.32	18½	6,589	5·98	394·32	230	Jr. 2	..	.. ..	Prince of the Wattles
Fairchild and Clutterbuck, Tinamba, Jersey (2).											
Xavier Kirsty	28923	3.6.32	16½	6,231	5·97	371·92	310	Jr. 4	..	286, 391, 341	Lord Island Fancy of Bruce Vale
Enterprize Tilly ..	23131	5.6.32	25	10,478	4·88	511·60	350	Mature	..	301, 434, 470, 398	Royal Gem of Somerville
Findlay, T. R., Leitchville, Jersey (1).											
Perree's Capture of Leven Brae	16265	18.6.32	21½	9,230	5·22	482·26	350	Mature	..	217, 333, 367, 336	Perree's Duke
Fixter, A., Boisdale, Guernsey (0).											
Melbourne Butterfly ..	3627	18.4.32	12	4,643	4·95	229·71	230	Jr. 2	..	.. ..	Melbourne Sandboy 6th
Foster Bros., Boisdale, Jersey (5).											
Staghorn Master's Beauty	23148	13.5.32	26½	8,402	5·43	456·02	350	Mature	..	321, 414, 382	Werribee Northern Masterpiece
Kirkhill, Joan	24508	15.5.32	12½	5,810	6·64	385·50	350	Mature	..	267, 307 ..	Daphne 3rd's Progress of Kirkhill
King's Vale Canary 24th ..	28324	20.5.32	23	7,106	5·55	394·56	310	Jr. 4	..	303, 330 ..	Linda 55th's V.C. of King's Vale
Boisdale Brunette ..	25374	21.5.32	14	6,134	5.45	334·02	310	Jr. 4	..	257, 276 ..	Linda 52nd's Imperial 2nd of King's Vale
Boisdale Joan	28700	9.6.32	12½	4,691	6·53	306·44	290	Sr. 3	..	.. ..	Kirkhill Don
Fraser, G. A., Addington, Ayrshire (1).											
Bonnie Doon Heather ..	22525	25.5.32	13½	7,934	4·77	378·18	230	Jr. 2	..	.. ..	Carlo of the Valley
Gange, Mrs. E. M., Werribee, Ayrshire (3).											
Roseleigh Heather ..	16578	1.4.32	14	9,386	3·93	368·72	350	Mature	..	206, 326 ..	Bemaze of Oakbank
Roseleigh Heather Bell ..	24310	6.4.32	25½	7,107	3·76	267·04	230	Jr. 2	..	.. ..	Roseleigh Radio
Roseleigh Duchess ..	18895	12.6.32	24	8,318	4·68	389·43	330	Sr. 4	..	259 ..	Roseleigh Bruce
Gay, R. G., North Devon, Jersey (2).											
Buttercup of Elm Grove	21303	10.4.32	25	10,023	5·51	552·75	350	Mature	..	450, 420, 500	Gold Star of Melrose
Elm Grove Milkmaid ..	34022	2.5.32	16½	5,153	6·64	342·09	270	Jr. 3	..	281 ..	Royal Lad of Elm Grove
Gepp, H. W., Macleod, Jersey (0).											
Strathalan Searchlight ..	34029	10.5.32	7	4,151	6·47	268·70	270	Jr. 3	..	293 ..	Superstrain of Banyule
Gibson Bros., Trafalgar, Jersey (1).											
Leathorne Pearline 2nd ..	33377	14.4.32	13½	4,494	5·38	241·84	230	Jr. 2	..	.. ..	Mercedes Gipsy Boy of Glen Iris
*St. Albans Junette	26424	18.6.32	4	6,390	5·00	319·41	350	Mature	..	474, 409, 387, 379	King 3rd of St. Albans
Attraction of Leathorne ..	16271	19.6.32	13	5,037	5·36	269·95	350	Mature	..	276, 350, 369, 368	Annette's Chief 2nd of Linden
Leathorne Mercedes Buttercup	33375	27.6.32	17½	5,264	4·91	258·71	270	Jr. 3	..	215 ..	Mercedes Gipsy Boy of Glen Iris
Gorman, A. W., Alexandra, Ayrshire (1).											
Cathcart Faith	22590	26.6.32	15	7,038	4·57	321·70	230	Jr. 2	..	.. ..	Ben Kell Watford
Gregg, V., Whittlesea, Jersey (1).											
Stoneycroft Blossom ..	28718	7.4.32	24½	7,274	5·86	426·48	350	Mature	..	346 ..	Glen Twylish
Handbury, J. E., and Sons, Toora, Jersey (3).											
Lassie Fowler of Tooravale	18728	7.5.32	14½	6,110	5·77	352·39	350	Mature	..	313, 379, 407, 363, 403	Welkin of Melrose
Tooravale May 2nd ..	23189	9.6.32	14	7,088	5·64	399·67	350	Mature	..	281, 410, 329, 379	Welkin of Melrose
Tooravale Lassie Fowler 3rd	28733	20.6.32	14	6,117	5·82	356·04	310	Jr. 4	..	251, 242 ..	Goldspeck of Tooravale
Harker, D. C., Tyers, Ayrshire (0).											
Stella of Thirlmere ..	12212	19.4.32	18½	7,544	4·04	305·07	350	Mature	..	267, 262, 341, 246, 382	Pride of Thirlmere
Harker, W. T., Caldermeade, Ayrshire (0).											
Wayside Connie ..	16900	27.4.32	7	6,211	4·66	289·51	350	Mature	..	259, 293, 290	Blondon of Gowrie Park
Harrison, Miss K., Frankston, Jersey (2).											
Walbundry Gama 2nd ..	33401	9.5.32	18½	5,919	4·66	275·73	270	Jr. 3	..	168 ..	Walbundry Rock Don
Walbundry Alfa 3rd ..	37495	6.6.32	16½	4,850	5·30	256·85	230	Jr. 2	..	.. ..	Walbundry Rock Don
Harvey, T., Boisdale, Jersey (5).											
Jerseyholm Blue Bell 9th	25394	31.5.32	26	9,848	5·47	538·75	290	Sr. 3	..	361 ..	Lord Island Fancy of Bruce Vale
Jerseyholm Kirsty 25th ..	37512	2.6.32	12½	4,281	5·49	235·03	230	Jr. 2	..	.. ..	Werribee Master Fox
Jerseyholm Lady Marge 11th	37513	5.6.32	14½	5,132	5·40	277·34	230	Jr. 2	..	.. ..	Lord Island Fancy of Bruce Vale
Jerseyholm Blue Bell 11th	37505	13.6.32	18	6,164	5·63	347·10	230	Jr. 2	..	.. ..	Werribee Master Fox
Jerseyholm Daisy 16th ..	25395	23.6.32	22	9,471	5·12	484·83	310	Jr. 4	..	.. ..	Werribee Master Fox

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Henderson, W., Dennington, Ayrshire, (0).											
Carracoorte Bellona 7th ..	17438	8.5.32	7	6,696	4·39	294·23	350	Mature	..	144, 201, 181, 265, 212	Maxwell of Sparrovale
Carracoorte Iris 8th ..	17466	13.5.32	7	6,044	4·69	283·18	330	Sr. 4	..	215, 216 ..	Sebastian of Sparrovale
*Carracoorte Betty ..	22585	14.5.32	4	5,640	4·93	278·07	350	Mature	..	183, 226 ..	Maxwell of Sparrovale
Filpail 8th of Carracoorte	9362	27.5.32	7	6,411	4·54	290·87	350	Mature	..	237, 212, 241, 309, 253	Lena's Fritz of Carracoorte
Henderson, W., Grasmere, Ayrshire (3).											
Carracoorte Balm 11th ..	19679	2.4.32	17	7,388	5·25	387·92	290	Sr. 3	..	90 ..	Gerty's Producer of Carracoorte
Brownie 13th of Carracoorte	15855	8.4.32	14	6,488	4·50	292·03	350	Mature	..	203, 248, 338, 294	Mab's Pride of Gleneira
Carracoorte Balm 8th ..	17436	14.4.32	8	8,525	4·71	401·93	350	Mature	..	280, 306, 385, 358	Donald of Sparrovale
Sparrovale Jane ..	16666	29.4.32	11	8,469	4·36	369·51	350	Mature	..	273, 349, 225	Scottish Fame of Gowrie Park
Carracoorte Palm 2nd ..	23552	30.5.32	4½	6,378	4·50	287·18	290	Sr. 3	..	312 ..	Gerty's Producer of Carracoorte
Carracoorte Bunty 9th ..	17453	8.6.32	8	6,880	4·56	313·80	350	Mature	..	231, 277 ..	Sebastian of Sparrovale
Hercus, T. B., Hayanmi, Jersey (4).											
Mologa Peerless ..	37559	19.5.32	21	5,996	5·31	318·38	230	Jr. 2	..	.. ..	Mologa Admiral
Mologa Jessie 2nd ..	23211	27.5.32	26½	8,903	5·51	490·57	350	Mature	..	.. ..	Delight of Melrose
Mologa Cherry	37558	4.6.32	20½	7,220	6·01	433·80	250	Sr. 2	..	.. ..	Mologa Admiral
Blossom 3rd of Belgonia..	21488	16.6.32	17	7,362	4·81	354·45	350	Mature	..	397 ..	Bright Twylish of Belgonia
Holbing, L. W. C., Tongala, Jersey (0).											
Vanilla of Rosemont ..	17467	31.3.32	23	6,528	5·31	346·53	350	Mature	..	293, 432 ..	Rosella 2nd's Noble of Rosemont
Hore, L. G., Horefield, Illawarra Milking Shorthorn (1).											
Kurrawong Bluebell 8th	3123	5.4.32	21½	7,782	4·30	334·81	230	Jr. 2	..	.. ..	Standard of Cosy Camp
Howlett, E. H., Morwell, Jersey (4).											
Latrobe Statuette 2nd ..	37605	29.4.32	17½	5,759	5·52	318·02	230	Jr. 2	..	.. ..	Latrobe Lily's Chief
Elderslie Margo ..	28965	1.5.32	16½	5,498	5·15	283·38	250	Sr. 2	..	187 ..	Joystick of Banyule
Latrobe Andante 2nd ..	28968	20.5.32	17	6,486	6·40	414·98	270	Jr. 3	..	279 ..	Latrobe Molly's Airman
Latrobe Lily 6th ..	25417	27.5.32	16½	7,059	5·55	391·74	310	Jr. 4	..	192, 291 ..	Superstrain of Banyule
Huffer, J. A., Gormandale, Jersey (2).											
Glen Valley Royal Rose 2nd	37612	8.6.32	14½	4,918	5·67	278·64	230	Jr. 2	..	.. ..	Waverley Count of Glen Valley
Glen Valley Waverley Lass 5th	34096	14.6.32	15½	6,343	6·23	395·41	250	Sr. 2	..	220 ..	Cream Lad of Mayland
Hutchinson, J., and Sons, Somerville, Jersey (1).											
Somerville Babs 2nd ..	23225	18.4.32	28½	10,023	5·15	516·36	350	Mature	..	443, 409, 469	Dauntless of Somerville
Irwin, H. W., Malmsbury, Jersey (1).											
Kyora Reprieved 2nd ..	Vol. 20	23.6.32	6½	6,786	4·97	337·47	230	Jr. 2	..	.. ..	Woodside Reprieved Volunteer
Itzerott Bros., Heathcote, Jersey (4).											
Five Gums Primula 5th ..	34116	5.4.32	17	5,930	5·78	342·83	270	Jr. 3	..	.. ..	Pearl's Lad of Coolwoola
Five Gums Fragrance ..	37623	6.6.32	13½	4,917	5·33	262·05	230	Jr. 2	..	.. ..	Staghorn Clementine Masterpiece 2nd
Five Gums Linaria 2nd ..	37634	6.6.32	16	5,196	5·99	311·04	230	Jr. 2	..	.. ..	Staghorn Clementine Masterpiece 2nd
Five Gums Fancyette ..	37631	13.6.32	13½	4,931	6·80	335·28	230	Jr. 2	..	.. ..	Staghorn Clementine Masterpiece 2nd
Jenkins, T. C., Tongala, Jersey (1).											
Hawaiki Cosmos ..	34117	2.6.32	13	4,839	5·60	271·15	230	Jr. 2	..	.. ..	Cooel Laddie
Kent, G. A., Archie's Creek, Ayrshire (2).											
Woolamai Dahlia ..	20896	31.3.32	20	6,657	4·66	310·07	290	Sr. 3	..	.. ..	Statesman of Gowrie Park
Woolamai Donor ..	19304	14.4.32	8½	6,851	3·78	259·14	310	Jr. 4	..	262, 264 ..	Statesman of Gowrie Park
Woolamai Priscilla ..	20904	27.4.32	8½	5,199	4·51	234·55	290	Sr. 3	..	226 ..	Bonnie Boy of Woolamai Park
Woolamai Rene ..	20906	19.5.32	5	6,293	4·21	264·99	290	Sr. 3	..	219 ..	Statesman of Gowrie Park
*Woolamai Beaty ..	20894	2.6.32	4	3,900	4·64	180·95	270	Jr. 3	..	179 ..	Statesman of Gowrie Park
Woolamai Mildred ..	14997	5.6.32	7½	7,718	4·20	323·98	350	Mature	..	234, 309, 287, 331	Statesman of Gowrie Park
Woolamai Poppy ..	20903	14.6.32	5	4,745	5·16	244·79	270	Jr. 3	..	171 ..	Bonnie Boy of Woolamai Park
†Peeress of Woolamai Park	11156	24.6.32	4	7,518	4·69	352·63	350	Mature	..	237, 271, 281, 361, 381, 289	Statesman of Gowrie Park
King, H. W., Warragul, Jersey (1).											
Karoola Sweet Nell ..	33441	25.4.32	17	6,588	5·74	378·17	250	Sr. 2	..	289 ..	Cream Lad of Mayland
Lade, A., Alexandra, Jersey (1).											
Hythe Buttercup ..	28812	9.4.32	13	5,729	5·01	286·78	330	S. 4	..	229, 210 ..	Snow's Boy of Farringdon
Hythe Lilac	27713	21.4.32	13½	5,274	5·32	280·80	230	Jr. 2	..	.. ..	Alert of Farringdon

* 240 days in test. † 252 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Lennie, Mrs. E. M., Tongala, Jersey (4).											
The Valley Dollar's Stumpy	28823	19.4.32	26½	7,311	5·01	366·00	290	Sr. 3	..	252 ..	Dollar of the Valley
The Valley Myra 6th ..	28825	20.4.32	14½	4,844	5·68	275·20	270	Jr. 3	..	234 ..	Blackthorn of Fairview
Buttercup of Jersey Vale	11657	11.5.32	26½	8,822	5·63	496·45	350	Mature	..	187, 323, 352, 262, 248, 521, 415, 436	Choice 2nd of Tarnpirr
The Valley Poppy 2nd ..	26024	8.6.32	21½	7,398	6·28	464·68	350	Mature	..	334, 429 ..	Blackthorn of Fairview
Leslie, T., Myrtlebank, Jersey (2).											
Hibiscus of Aveley ..	13218	14.6.32	34½	12,240	4·52	553·83	350	Mature	..	303, 300, 432, 455	Alloy of Banyule
Dunrossness Beatrice ..	C.R.	26.6.32	25	7,122	5·82	414·23	230	Jr. 2	..	.. ..	Banyule of Velometor
Lockett, C. and R., Ballarat, Jersey (1).											
*Clara 5th of Trawalla ..	21470	29.5.32	17	7,020	5·16	362·30	350	Mature	..	.. ..	Fancy of Paradise
Longerenong Agricultural College, Dooen, Ayrshire (0).											
Longerenong Golden Wattle	20483	13.4.32	8	5,874	4·77	279·96	330	Sr. 4	..	270, 272, 309	Lily's Lad of Holly Green
†Longerenong Coboca ..	18467	21.4.32	4	6,623	4·07	269·72	350	Mature	..	289, 274, 328, 228	Lily's Lad of Holly Green
Longerenong Acacia ..	21905	17.6.32	5	6,350	5·18	328·86	350	Mature	..	289, 253, 238	Lily's Lad of Holly Green
Lowing, Mrs. L., Tongala, Jersey (5).											
Troed-yr-Rhiw Gwenda ..	37763	17.4.32	16	4,682	6·33	296·31	230	Jr. 2	..	.. ..	Montrose Duke of Glen Iris
Troed-yr-Rhiw Blodwin..	26040	23.4.32	20	7,584	5·22	396·17	350	Mature	..	340 ..	Princess 2nd Twylish of Grangelea
Troed-yr-Rhiw Fydd ..	26044	18.5.32	20	8,064	4·86	391·86	330	Sr. 4	..	337, 372, 242	Cymro of Belgonia
Troed-yr-Rhiw Melys ..	26477	19.6.32	N.O.C.	5,424	5·70	308·90	290	Sr. 3	..	238 ..	Cymro of Belgonia
Troed-yr-Rhiw Rosin 2nd	Vol. 20	22.6.32	13	4,927	6·97	343·56	230	Jr. 2	..	.. ..	Troed-yr-Rhiw Eclipse's Lad
Lyon, C. G., Heidelberg, Jersey (2).											
Ettie 10th of Banyule ..	21431	26.4.32	27	10,257	5·47	560·82	350	Mature	..	378, 404, 511	Wotton Airman
Banyule Tiddlewinks 4th	25477	27.4.32	20½	7,643	6·26	478·70	290	Sr. 3	..	317 ..	Air Lord of Banyule
Lyon, H. W., Sale, Jersey (1).											
Studleigh Masterpiece's Starbright 2nd	37014	20.6.32	14½	6,647	4·74	315·02	230	Jr. 2	..	.. ..	Studleigh Masterpiece
Macauley, C. W., Rochester, Jersey (2).											
Taranah Fashion ..	37856	26.6.32	4	4,595	5·07	232·88	230	Jr. 2	..	.. ..	Duke of Invermay
Taranah Royal Rose 3rd	..	30.6.32	14	6,317	5·77	364·56	250	Sr. 2	..	.. ..	Duke of Invermay
McClelland, Miss, Tunstall, Jersey (1).											
The Elms Patricia ..	37797	10.4.32	18	5,277	5·25	277·02	230	Jr. 2	..	.. ..	Kyora Defender's Volunteer
McDougall, J., Byaduk, Jersey (3).											
Dawn of Parkview ..	21452	10.5.32	27½	11,745	4·78	561·88	350	Mature	..	289, 348, 434	Cream Lad of Fairview
Parkview Fairy ..	24478	13.5.32	15½	8,940	4·94	442·00	350	Mature	..	284, 272, 324	Cream Lad of Fairview
Parkview Nola ..	24480	23.5.32	12½	6,751	6·04	407·70	350	Mature	..	311, 371, 375	Cream Lad of Fairview
McGarvie, K., Pomborneit, Jersey (10).											
Greenwood Caroline ..	37812	30.3.32	19½	7,206	5·56	400·81	250	Sr. 2	..	.. ..	Greenwood Edwin
Greenwood Bessie ..	37808	30.3.32	16	6,221	5·44	338·32	250	Sr. 2	..	.. ..	Greenwood Emperor
Greenwood Clarice 2nd ..	37817	1.4.32	15½	5,258	6·55	344·33	250	Sr. 2	..	.. ..	Retford Peer
Greenwood Chestnut ..	37816	10.4.32	14½	6,231	6·34	395·35	250	Sr. 2	..	.. ..	Greenwood Emperor
Greenwood Cheer ..	37815	20.4.32	22	8,237	4·83	398·11	250	Sr. 2	..	.. ..	Greenwood Emperor
Greenwood Countess ..	37821	24.4.32	16½	7,041	5·44	383·16	250	Sr. 2	..	.. ..	Greenwood Emperor
Greenwood Butter Girl ..	34212	10.5.32	15	8,355	5·90	492·64	250	Sr. 2	..	341 ..	Retford Peer
Greenwood Brownie] ..	37810	21.5.32	16	8,118	6·38	518·04	290	Sr. 3	..	312 ..	Retford Peer
Greenwood Bangle ..	33467	27.5.32	12½	7,937	5·40	428·42	290	Sr. 3	..	284 ..	Retford Peer
Greenwood Doris ..	37832	23.6.32	12	6,581	5·50	362·16	230	Jr. 2	..	.. ..	Greenwood Adonis
McLeish, H. F., Kernot, Jersey (1).											
Ewelme Trixie's Clementine	37845	26.5.32	10½	4,517	6·59	297·79	250	Sr. 2	..	.. ..	Staghorn Clementine 4th's Masterpiece
McNabb, G. A., and Son, Irrewillipe East, Jersey (9).											
Maxon Alsyke	34216	14.4.32	20	7,037	5·55	390·70	270	Jr. 3	..	267 ..	Mercedes Chief 7th of Avalon
Maxon Lodie	34219	17.4.32	15	4,416	6·20	273·87	230	Jr. 2	..	.. ..	Maxon Starbright's Prince 4th
Maxon Sweet Marie ..	29080	17.4.32	22	8,693	5·51	479·38	290	Sr. 3	..	282, 361 ..	Lady Grey Silvermine's 2nd of Somerset
Maxon Goldfinch ..	Vol. 20	25.4.32	15	6,015	6·17	371·34	230	Jr. 2	..	.. ..	Avalon Noble 8th
Avalon Nobles Pansy 3rd	36833	19.5.32	19	6,233	6·38	397·62	230	Jr. 2	..	.. ..	Noble of Avalon
Maxon Noble Comfrey ..	34223	27.5.32	18	7,055	5·59	394·45	250	Sr. 2	..	287 ..	Avalon Noble 8th
Maxon Lady Linnacre ..	29075	27.5.32	18½	7,196	5·57	400·99	290	Sr. 3	..	250, 340 ..	Chloe's Mercedes Chief of Glen Iris
Maxon Noble's Daisy ..	34224	28.5.32	17	5,945	6·37	378·67	250	Sr. 2	..	222 ..	Avalon Noble 8th
Maxom Noble's Ranunculus	34226	1.6.32	19	7,526	4·94	371·55	250	Sr. 2	..	225 ..	Avalon Noble 8th

* 240 days in test herd withdrawn. † 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test lb.	Milk lb.	Average Test.	Butter Fat lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Maher Bros., Seymour, Ayrshire (1).											
Satinbird of Gowrie Park	13854	4.4.32	17	8,976	3·99	358·54	350	Mature	..	368, 295, 393	Bonnie Blair of Gowrie Park
Maloney, P. J., Tongala, Jersey (1).											
Suspense	35383	25.5.32	25	9,523	6·40	609·16	350	Mature	..	452 ..	Boutilier's Brampton Lad
Marshall, M., Myrtlebank, Jersey (1).											
Hewick Bella	37901	22.5.32	18½	5,805	5·73	332·57	230	Jr. 2	..	.. ..	Banyule Velometer
Marshman, A. R., Archie's Creek, Jersey (2).											
Forgan Charm	23310	17.5.32	15	5,730	5·69	325·82	350	Mature	..	334, 357, 349	Chorus Boy of Kelburn
Forgan Gem	25558	17.5.32	15	7,008	5·08	356·08	350	Mature	..	377, 354 ..	Chorus Boy of Kelburn
Forgan Dainty 2nd ..	25556	11.6.32	14	7,256	5·19	376·34	350	Mature	..	282, 332, 217	Fisher of Melrose
Masters, S. H., Murraydale, Jersey (1).											
Rutland Brunette ..	29130	27.6.32	20	8,375	5·04	422·31	310	Jr. 4	..	313, 323 ..	Fuschia's Choice of St. Albans
Mesley, T., Dalyston, Jersey (1).											
Warenda Gazelle 5th ..	23317	14.4.32	18½	7,992	5·97	476·84	350	Mature	..	413 ..	Kewpie of Warenda
Middleton, E. M., Hamilton, Jersey (6).											
Strathkellar Soprano ..	Vol. 20	10.4.32	17	5,481	5·79	317·50	230	Jr. 2	..	.. ..	King's Bounty of Somerville
Nairana Clementine 4th ..	29224	14.4.32	16½	5,750	5·33	306·35	230	Jr. 2	..	.. ..	Goldstar of Strathbow
Nairana Opossum 4th ..	29254	12.5.32	17	5,826	6·40	372·64	230	Jr. 2	..	.. ..	Goldstar of Strathbow
Strathkellar Bettws-y-Coed	37927	21.5.32	17	4,869	7·67	373·42	230	Jr. 2	..	.. ..	King's Bounty of Somerville
Kyora Foch's Starbright 3rd	29161	21.5.32	15½	6,252	6·35	396·95	310	Jr. 4	..	250, 270 ..	Foch of Jerrara
Melrose Handsome Girl 16th	29164	21.6.32	17½	7,581	6·65	503·85	290	Sr. 3	..	344 ..	Masterpiece
Milne, R. K., Camperdown, Jersey (3).											
Castlemaddie Cornflower 3rd	25282	23.4.32	16	6,131	5·82	357·10	310	Jr. 4	..	209, 308, 295	King's Bounty of Somerville
Allambie Beryl ..	24610	28.5.32	16	6,996	5·64	394·24	350	Mature	..	353, 398 ..	Prince of Kirkhill
Mount Violet Lily's Choice	38060	20.6.32	18	6,642	5·18	343·89	250	Sr. 2	..	306 ..	Mount Violet Maitland
Moore, J., and Co., Yarram, Jersey (1).											
Tooloonook Antimony's Bessie 3rd	Vol. 20	12.4.32	8	4,610	5·93	273·34	290	Sr. 3	..	245 ..	Beauty 4th Command of Somerville
Tooloonook Lilac Bloom 2nd	C.R.	6.6.32	10½	4,335	6·74	292·30	230	Jr. 2	..	.. ..	Heroic of Somerville
Murray, H. C., Murrabit West, Jersey (1).											
Colber Jessie	38231	8.6.32	17	6,081	5·37	326·63	250	Sr. 2	..	275 ..	Linden Grey Laddie
Neave, E. B., Callignee, Jersey (4).											
Eastvale Pearl	33561	7.5.32	12½	4,208	5·67	238·52	230	Jr. 2	..	.. ..	Bright Side Gold King
Xavier Pearl	33563	8.5.32	30	9,825	4·68	459·51	290	Sr. 3	..	359 ..	Mozart of Warenda
Latrobe Lily 5th ..	25416	7.6.32	21½	7,686	6·18	475·20	330	Sr. 4	..	510 ..	Superstrain of Banyule
Starfinch of Latrobe ..	21353	16.6.32	24½	8,684	6·10	529·42	350	Mature	..	414, 571 ..	Wooton Airman
Noble, T. M., and Son, Maffra, Jersey (2).											
Finchley Music ..	33567	23.5.32	18½	6,344	6·37	404·12	270	Jr. 3	..	296 ..	Werribee Lord Burnham
Linga Longa Fairy's Handsome Girl	28875	25.5.32	24	9,216	7·24	667·59	350	Mature	..	336, 446, 389, 587	Jessie's Handsome Boy
Nolte, E. H., Merino, Jersey (2).											
Nairana Blue Bell 2nd ..	29209	15.6.32	16	8,370	6·19	517·71	350	Mature	..	417 ..	Burnside Audacious
Nairana Fairy 3rd ..	29231	21.6.32	14	7,581	5·43	411·41	350	Mature	..	296 ..	Garantie's Colonel of Penrhyn
Onley, W. H., Caldermeade, Jersey (1).											
Holm Treasure ..	21783	10.5.32	17	6,730	4·61	310·56	250	Sr. 2	..	.. ..	Holm Bruce
Orchard, Mrs. L., Graham Vale, Jersey (1).											
Laura of Jersey Vale ...	24541	30.3.32	10½	5,988	5·09	304·73	350	Mature	..	268, 285, 287	Princess 2nds Twylish of Grangelea
Jersey Vale Lassie ..	C.R.	1.4.32	12½	5,970	5·65	337·59	350	Mature	..	231, 323, 308	Princess 2nds Twylish of Grangelea
Jersey Vale Ruth ..	Vol. 20	6.5.32	11	4,469	5·76	257·56	230	Jr. 2	..	.. ..	Princess 2nds Twylish of Grangelea
Jersey Vale Myra ..	Vol. 20	10.6.32	6	4,142	4·81	199·33	230	Jr. 2	..	.. ..	Princess 2nds Twylish of Grangelea
Overend, Mrs. A. C., Sale, Jersey (2).											
Bon Accord Brilliant Gem	38008	17.4.32	8½	6,784	6·06	411·13	250	Sr. 2	..	232 ..	Bon Accord David
Bon Accord Bertha ..	34273	14.5.32	6½	4,490	6·34	284·79	250	Sr. 2	..	264 ..	Bon Accord David

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Padgett, I., Werribee, Friesian (4).											
St. Albans Ina Sylvia ..	2593	3.4.32	48	16,163	3·65	590·62	350	Mature	..	593, 705 ..	Echo Sylv King Pontiac
St. Albans Tulip Avon ..	2607	21.4.32	N.O.C.	13,838	3·20	443·23	350	Mature	..	368 ..	Echo Sylv King Pontiac
St. Albans Roses's Queen	2605	24.4.32	46½	15,384	3·76	577·81	350	Mature	..	425, 475 ..	St. Albans May Queen Netherland Prince
Tulla Pontiac Lady ..	C.R.	23.1.29	25	9,506	3·91	372·10	270	Jr. 3	..	.. ..	Clarendon Eyre Inka Pontiac
Parbury, W., Warburton, Jersey (2).											
Beauty 9th of Brookfield	21546	1.4.32	25	8,255	4·90	404·13	350	Mature	..	236, 312, 367	Werribee Wyandotte's Star
Brookfield Beauty 11th ..	29286	28.4.32	18½	7,017	5·62	394·65	330	Sr. 4	..	306, 315 ..	Sweetbread's Duke of Glen Iris
Rosalind 9th of Brookfield	21563	9.6.32	11½	5,885	5·67	333·79	350	Mature	..	244, 326, 333, 364	Werribee Wyandotte's Star
Songstress 9th of Brookfield	21570	18.6.32	10	6,002	5·40	323·91	350	Mature	..	233, 262 ..	Werribee Wyandotte's Star
Parker Bros., Seymour, Ayrshire (3).											
Heiress of Cathcart ..	13521	5.5.32	20½	11,348	4·64	526·48	350	Mature	..	229, 282 ..	Poppy's Advance of Ben Kell
Cathcart Blanche ..	14839	9.6.32	14½	9,353	4·42	413·03	350	Mature	..	225, 264, 318	Poppy's Advance of Ben Kell
Delamere Blush ..	22677	21.6.32	15	6,563	4·61	302·46	230	Jr. 2	..	.. ..	Cathcart Flashlight
Pearson, J., Neerena East, Jersey (4).											
Music of Linga Longa ..	17698	17.4.32	11½	6,444	6·04	388·90	350	Mature	..	297, 336, 371, 385, 354	Dawn of Warenda
Glenmoor Heather ..	38039	29.4.32	16	7,395	4·94	365·11	350	Mature	..	288 ..	Peerless 19th Prince of Melrose
Warrawee Hyacinth ..	C.R.	30.4.32	18½	6,783	5·10	346·25	230	Jr. 2	..	.. ..	Banyule Tympani
Warrawee Snowdrop ..	24546	11.5.32	23	8,634	5·01	432·21	350	Mature	..	349, 365, 436	Werribee Northern Masterpiece
Pettitt Bros., Geelong, Ayrshire (1).											
Blinkbrae Mynette ..	21057	7.4.32	4	5,364	4·68	251·16	230	Jr. 2	..	.. ..	Happy Jack of Gleneira
Phillips, J., Murraydale, Jersey (1).											
Hopes Surprise of Peri ..	17819	21.6.32	11½	7,976	4·35	346·64	350	Mature	..	259, 278, 362, 331, 381, 333	Bosun's Pride of Peri
Peri Empire 2nd ..	23362	22.6.32	10	5,705	6·72	383·56	350	Mature	..	266, 326 ..	Peerless Eclipse of Meadowvale
Plattfuss, J., Tongala, Friesian (1).											
Greenvale Segis Clarice ..	C.R.	2.7.32	21	8,418	4·24	357·33	290	Sr. 3	..	.. ..	Lydholme Segis Paxton
Pollard, C. F., Bonegilla, Jersey (1).											
Flighty 4th of Melksham Park	18731	12.6.32	N.O.C.	8,091	5·64	456·25	350	Mature	..	.. ..	Waverley Lass 2nd's Viscount of Melrose
Poole, Mrs. M. A., Caldermeade, Ayrshire (2).											
Ryland Pride	20718	20.4.32	8	6,058	5·21	315·51	330	Sr. 4	..	209, 266 ..	Baron of Glen Afton
Ryland Pearl	16599	22.4.32	17	8,987	4·43	398·56	350	Mature	..	310, 296, 372	Clairmont Boaster
Ryland Fairy	20714	25.5.32	4	6,318	4·99	315·41	310	Jr. 4	..	292 ..	Ryland William
Powell, Mrs. K. E., Camperdown, Jersey (4).											
Mount Violet Rose Petal	38064	20.4.32	18	5,333	5·59	297·91	250	Sr. 2	..	.. ..	Chief of Allambie
Mount Violet Starbright	38065	20.4.32	19	5,483	6·23	341·58	230	Jr. 2	..	.. ..	Mount Violet Maitland
Mount Violet Twylish Pet	C.R.	20.5.32	11	4,370	5·19	226·74	230	Jr. 2	..	.. ..	Mount Violet Maitland
Mount Violet Mermaid ..	38061	26.5.32	16	5,601	4·98	278·66	230	Jr. 2	..	.. ..	Mount Violet Maitland
Mount Violet Queenie's Pearl	Vol.20	26.5.32	11	4,022	5·35	215·07	230	Jr. 2	..	.. ..	Mount Violet Maitland
Mount Violet Fairy ..	38059	19.6.32	17	5,783	5·22	301·76	230	Jr. 2	..	.. ..	Mount Violet Maitland
Poynton, W. H., and Sons, Macarthur, Jersey (1).											
Castlemaddie Icicle ..	23302	21.4.32	28	6,338	6·69	424·08	350	Mature	..	.. ..	King's Bounty of Somerville
Purnell, R., Moriac, Jersey (3).											
Narrawong Twylish Maid 2nd	38085	21.4.32	20	7,365	6·80	500·70	310	Jr. 4	..	363 ..	Garantie's Hero of St. Albans
Narrawong Jessie 2nd ..	29318	2.6.32	10	5,551	6·35	352·39	310	Jr. 4	..	285, 273 ..	Garantie's Hero of St. Albans
Narrawong Laurie 2nd ..	34291	10.4.32	14	4,919	6·95	341·73	250	Sr. 2	..	227 ..	Greenwood General
Purss, F. W., Walwa, Jersey (2).											
Willow View Lady Fair ..	34292	29.4.32	N.O.C.	6,728	6·46	434·49	230	Jr. 2	..	.. ..	Springfield Numa
Clarendon Eyre Lady Luck	24674	12.6.32	N.O.C.	10,301	5·79	596·06	350	Mature	..	447 ..	Eminent's Achievement of Clarendon Eyre
Quigley and Bennett, Yinnar, Jersey (1).											
Belgonia Romany Lass 4th	33638	12.6.32	26½	9,690	4·99	483·31	290	Sr. 3	..	374 ..	Aerial of Banyule

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Raleigh, Miss H. E., Pakenham Upper, Jersey (1).											
Goronga Farm Trifodil ..	33640	25.4.32	12	5,061	6·04	305·80	250	Sr. 2	..	.. ..	Banyule Triplane
Ralph Bros., Moorabbin, Illawarra Shorthorn (1).											
Favour of Alne Bank ..	14327	19.4.32	26	8,883	3·89	345·55	310	Jr. 4	..	.. ..	Linda's Heir of Lemon Grove
Rankin, W. J., Trafalgar, Jersey (1).											
Rosalind 15th of Brookfield	21566	23.6.32	23½	8,602	4·88	419·58	350	Mature	..	.. ..	Werribee Wyandotte's Star
Read, J. D., Springhurst, Jersey (10).											
Nardoo of Springhurst ..	18936	31.3.32	29	10,872	6·20	674·38	350	Mature	..	301, 458, 386, 553, 618	Starbright's Prince of Glen Iris
Gladious 2nd of Springhurst	18929	1.4.32	28	10,610	5·87	622·66	350	Mature	..	401, 487, 445, 457, 528	Starbright's Prince of Glen Iris
Springhurst Romneya 3rd	29337	2.4.32	23	8,364	6·18	516·50	250	Sr. 2	..	442 ..	Starbright's Prince of Glen Iris
Springhurst Yarran ..	24570	2.4.32	24	9,251	6·16	569·61	350	Mature	..	428, 453, 519	Starbright's Prince of Glen Iris
Tulip 2nd of Springhurst	9667	12.4.32	12½	7,493	5·46	408·92	350	Mature	..	316, 278, 517, 438, 584, 462, 513, 476, 504, 515	Attraction of Springhurst
Springhurst Melilot 3rd ..	26167	13.4.32	19	8,426	6·47	544·94	290	Sr. 3	..	324, 389 ..	Starbright's Prince of Glen Iris
Springhurst Tomato 2nd	26175	13.5.32	20½	8,525	6·36	542·01	310	Jr. 4	..	340, 410 ..	Starbright's Prince of Glen Iris
Tomato of Springhurst ..	18939	17.5.32	26½	10,041	5·60	562·66	350	Mature	..	302, 533, 604, 567, 594	Alloy of Banyule
Springhurst Aconite 3rd	33643	6.6.32	20	6,690	6·09	407·17	230	Jr. 2	..	.. ..	Starbright's Prince of Glen Iris
Springhurst Tomato 3rd	38110	16.6.32	18	7,059	6·37	449·74	230	Jr. 2	..	.. ..	Starbright's Prince of Glen Iris
Rentsch, A., Tabor, Illawarra Milking Shorthorn (1).											
Alne Bank Silko ..	Vol. 3	23.5.32	29	9,167	4·01	367·72	270	Jr. 3	..	.. ..	Royal Light of Alne Bank
Richardson, W. S., Bacchus Marsh, Jersey (3).											
Sutton Lea Airenne ..	38133	16.4.32	14	4,332	6·76	293·03	230	Jr. 2	..	.. ..	Banyule Petalon 2nd
Sutton Lea Pariel 2nd ..	38137	18.4.32	15	5,109	5·53	282·28	230	Jr. 2	..	.. ..	Banyule Petalon 2nd
Sutton Lea Air Mite ..	38135	22.4.32	19	5,810	5·06	294·25	230	Jr. 2	..	.. ..	Banyule Petalon 2nd
Robinson, Miss S. L., Kew, Jersey (3).											
Kyora Bettws-y-Coed 2nd	34299	8.4.32	15½	4,665	5·95	277·53	250	Sr. 2	..	.. ..	Miama's Volunteer of Woodside
Kyora Dora 2nd ..	34301	14.4.32	16	5,580	5·57	310·66	230	Jr. 2	..	.. ..	Kyora Twinkle's Volunteer
Lady Montrose of Woodside	16745	5.5.32	15½	5,423	5·34	289·55	350	Mature	..	280, 295 ..	Montrose Sultan
Kyora Creamy 3rd ..	23404	5.5.32	16½	7,869	5·63	442·65	350	Mature	..	332 ..	Foch of Jerrara
Rodda, W. G., Warracknabeal, Jersey (1).											
Toolang Carnation ..	36998	17.6.32	8	7,584	5·17	391·79	230	Jr. 2	..	.. ..	Vanilla 2nd of Tavistock
Ronalds, O., Tarago, Jersey (6).											
Somerville Heroine 5th ..	38184	17.4.32	27½	8,670	5·06	438·31	230	Jr. 2	..	.. ..	Banyule Aeronaut
Somerville Ramona ..	28781	26.5.32	22	6,969	7·04	490·57	290	Sr. 3	..	.. ..	Banyule Aeronaut
Somerville Sunmorn ..	28784	1.6.32	18½	7,823	5·09	398·02	290	Sr. 3	..	.. ..	Banyule Aeronaut
Somerville Princess Valda 2nd	38185	1.6.32	20	7,128	5·09	363·01	230	Jr. 2	..	.. ..	Banyule Aeronaut
Somerville Air Beauty ..	38183	6.6.32	20½	7,211	6·02	433·86	230	Jr. 2	..	.. ..	Banyule Aeronaut
Glenwood Lady Lotus ..	38181	24.6.32	16	7,008	6·11	428·28	270	Jr. 3	..	.. ..	Lotus King of Glenwood
Ryan, D. M., and Sons, Pirron Yallock, Illawarra Shorthorn (3).											
Basin Bank's Butterfly ..	5089	10.4.32	22	8,463	4·20	355·53	230	Jr. 2	..	.. ..	Redmen of Glenburn
Lady 3rd of Fairfield ..	16505	14.4.32	28	11,825	4·06	480·63	270	Jr. 3	..	.. ..	Fairy Foch of Fairfield
Glengowrie Tottie 7th ..	2855	14.4.32	29	11,807	4·26	503·32	310	Jr. 4	..	284, 444 ..	Guardian of Greyleigh
Viola of Lawarra ..	16498	20.5.32	12	6,522	4·32	281·65	290	Sr. 3	..	.. ..	Mascot of Lawarra
Schier, H. A., Bamawm, Jersey, (1).											
Greenview Venus ..	34312	23.5.32	19	6,014	6·62	398·27	250	Sr. 2	..	.. ..	Banyule Ettie's Air Lord
Schilpalius, A. J., Kilmany South, Jersey (0).											
Fairbank Melba ..	23433	24.4.32	13	6,000	5·60	335·82	350	Mature	..	252, 251, 265	Pearl 2nd's Pride of Melba

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Schreenan Bros., Sebastopol, Ayrshire (3).											
Gowrie Park Lou	Vol. 25	2.5.32	17	5,813	4·69	272·78	250	Sr. 2	..	..	Tregorland Imperator
Gowrie Park Annie	Vol. 25	7.5.32	19	6,620	3·84	254·26	250	Sr. 2	..	..	Gowrie Park Scottish Standard
Gowrie Park Trinket	Vol. 25	9.5.32	18	6,816	4·22	287·74	250	Sr. 2	..	..	Gowrie Park Scottish Major
Sell, C. H., Irrewillipe East, Jersey (2).											
Avalon Mercede's Belle 4th	22935	4.5.32	13	7,301	4·88	356·09	350	Mature	..	264, 236, 260, 274	Mercede's Chief of Glen Iris
Strawberry Vale Tulip	29466	6.5.32	20	7,400	5·19	384·03	290	Sr. 3	..	226, 295	Madeira's King of Staghorn
Shallard, F. A., Undera, Jersey (1).											
Jubilee Date	33661	23.6.32	9½	7,004	5·95	416·57	310	Jr. 4	..	..	Jubilee Whatlight
†Primley Margaret	Vol. 20	23.6.32	4	915	4·56	41·74	230	Jr. 2	..	..	Werribee Ranger
Smethurst, J. R., Thorpdale, Jersey (3).											
Aveley Sundae	23443	6.4.32	22	6,651	5·73	381·28	350	Mature	..	298, 337, 396, 386	Choirmaster of Banyule
Bray Tor Bluebell	33757	24.4.32	15	6,119	6·01	367·62	250	Sr. 2	..	264	Pansy's Chief of Leathorne
Aveley Flicker	23440	30.4.32	20	7,574	5·63	426·69	350	Mature	..	318, 302, 382, 389	Werribee Fancy Butter King
Steele, C., Shoreham, Jersey (1).											
Jubilee Maple	38343	1.5.32	16½	6,085	5·31	323·22	230	Jr. 2	..	..	Jubilee Whatlight
Stephens, Mrs. M. V., Tongala, Jersey (5).											
Keepsake Treasure of Swansea	26233	4.5.32	24	8,780	7·16	628·75	350	Mature	..	477, 576, 446	Lily's Progress 2nd of Swansea
Fourshell Air Maid	38345	4.6.32	30	10,110	5·51	557·11	230	Jr. 2	..	..	Fourshells Keepsake
Fourshells Heroine 2nd	38346	6.6.32	18½	5,363	6·56	351·72	230	Jr. 2	..	..	Belgonia Propeller
Fourshells Hope 2nd	38347	14.6.32	23	7,949	6·63	526·99	230	Jr. 2	..	..	Fourshells Keepsake
Coolwoola Montrose Firefly	29513	23.6.32	35½	10,005	5·43	543·33	330	Sr. 4	..	348, 421, 385	Montrose Dancer of Glen Iris
Stoll, Mrs. L. T., Rokeby, Jersey (1).											
Melbourne Sparklight's Lady	26372	23.6.32	19	7,221	5·05	364·60	350	Mature	..	372	Sparklight's Duke of Glen Iris
Stoney, W. B., Drouin West, Jersey (1).											
Edmonton Trixie Lass 2nd	33215	7.4.32	9	4,683	5·95	278·42	230	Jr. 2	..	..	Rarius of Edmonton
Melview Bonnie	33681	14.4.32	13½	5,190	6·08	315·62	350	Mature	..	..	Sunburst of Melrose
Comely Banks Foxglove 2nd	29386	26.6.32	N.O.C.	5,010	5·36	268·57	350	Mature	..	297	Twylish of Comely Banks
Sutton, H., and Son, Callignee, Jersey (1).											
†Latrobe Hazel	28970	15.5.32	4	4,290	5·15	221·00	270	Jr. 3	..	178	Latrobe Molly's Airman
Omatoroa Cream Rose	38381	5.6.32	10½	4,142	5·62	232·79	230	Jr. 2	..	..	Waverley's Count of Glen Valley
Glen Valley Rose Petal	28984	21.6.32	9	6,000	5·10	306·24	310	Jr. 4	..	316	Cream Lad of Mayland
Telford, J. H. and R., Kyabram, Ayrshire (1).											
Hyde Park Daphne's Promise	16354	21.6.32	6½	8,100	5·31	429·82	350	Mature	..	295, 359, 293	Bell Boy of Ben Kell
Tomasetti, A. G., Drouin West, Ayrshire (1).											
Glen Athol Violet	13652	3.6.32	13	8,528	4·99	425·65	350	Mature	..	342	Renown of Gowrie Park
Tuckey, J. F., Alberton, Ayrshire (1).											
Tregorland Kitty	19080	3.5.32	19½	8,186	5·01	410·17	350	Mature	..	300, 302, 322	Gowrie Park Scotchman
Unthank, J., Somerville, Jersey (1).											
Moorooduc Hopeless	26260	7·6·32	18	7,451	4·80	357·33	350	Mature	..	390, 398, 366	Repulse of Somerville
Vagg, E. J., Leongatha, Jersey (2).											
Bonnay Lady's Love	29564	3.4.32	20½	7,997	6·19	495·32	350	Mature	..	333, 425, 496	Mona's Duke of Woorayl
Bonnay Silver Maid	26264	21.4.32	18½	6,899	6·21	428·28	330	Sr. 4	..	313	Mona's Duke of Woorayl
Van Brummelen, J. K., Lower Ferntree Gully, Friesian (1).											
Bolero Inka Joy	Vol. 12	4.4.32	27½	7,776	3·18	247·64	230	Jr. 2	..	..	St. Alban's Queen's Korndyke
Bolero Milkmaid	C.R.	17.5.32	18½	7,479	3·42	255·56	310	Jr. 4	..	239	Burnbank Inka Sylvia's Lad

† 240 days in Test.

†† 60 days in Test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Order of Merit.	Previous Yields of Butter Fat.	Sire.
Vaughan Bros., Girgaree, Jersey (6).											
Lynroy Linda 3rd ..	38465	20.5.32	14	4,726	6·47	305·64	230	Jr. 2	..	..	Sherbourne King Wyandotte's King
Lynroy Flower ..	38460	23.5.32	9	4,649	6·54	304·10	230	Jr. 2	..	..	Sherbourne King Wyandotte's King
Lynroy Vanilla ..	38466	26.5.32	19½	6,524	5·67	369·90	230	Jr. 2	..	..	Sherbourne King Wyandotte's King
Lynroy Jean 4th ..	38464	9.6.32	16½	6,062	5·52	334·83	230	Jr. 2	..	..	Sherbourne King Wyandotte's King
Lynroy Pixie	Vol. 20	20.6.32	18½	6,512	7·09	461·89	290	Sr. 3	..	314	Sherbourne King Wyandotte's King
Lynroy Gem 2nd ..	38461	20.6.32	19	6,587	5·62	370·11	250	Sr. 2	..	325	Sherbourne King Wyandotte's King
Venn, V. A., Myrtlebank, Jersey (1).											
Hazeldale Ruby 2nd ..	25555	23.6.32	20½	8,945	5·01	448·11	350	Mature	..	294, 326, 252, 422	Dinkum of Banyule
Walkley, E. E., Glen Forbes, Jersey (1).											
Blackwood Grove Silver Star	38496	6.4.32	20	6,194	5·64	349·44	230	Jr. 2	..	..	Blackwood Grove Starlight
Glady's Park Sweet Star..	38497	5.5.32	11½	3,891	5·17	201·28	230	Jr. 2	..	..	Burnside Royalist
Warner and McKenzie, Toora, Jersey (1).											
Elanora Queenie 2nd ..	38507	15.4.32	21½	5,359	5·08	272·34	250	Sr. 2	..	..	Burnside Harmony
West, J. C., Notting Hill, Illawarra Shorthorn (3).											
Tottie 8th of Aine Bank	11569	4.4.32	15½	9,941	4·41	438·03	270	Jr. 3	..	286	Dan of Greyleigh
Parkview Queenie ..	5098	21.4.32	27	9,545	4·16	396·69	230	Jr. 2	..	..	Jean's Monarch of Blacklands
Elsie 5th of Allwalla ..	7151	24.5.32	28	11,187	4·03	451·15	290	Sr. 3	..	265	Premier of Fairfield
Wilson, D. C., Derrinallum, Jersey (3).											
Ayton Law Fern ..	25654	30.3.32	13	6,536	4·60	300·66	290	Sr. 3	..	229, 237	Wagga Yambils Goddington Noble
Melksham Pansy 20th ..	33924	31.3.32	10	4,790	6·24	299·00	250	Sr. 2	..	..	Royal Duke of Melrose
Monomeith Kyeema ..	18987	5.6.32	7	3,981	5·24	208·63	350	Mature	..	232, 241, 228	Jubilee Whitelight
Ayton Law Queenie ..	33922	12.6.32	N.O.C.	4,674	5·77	269·56	230	Jr. 2	..	..	Wagga Yambil's Goddington Noble
Wood, J. V. M., Heidelberg, Jersey (1).											
Clarendon Eyre Little Buttercup 4th	C.R.	4.6.32	21	6,614	5·55	366·97	230	Jr. 2	..	..	Eminent's Achievement of Clarendon Eyre
Woodmason, W., Oakleigh, Jersey (2).											
Blossom 8th of Melrose ..	17513	25·4·32	13	8,490	5·31	450·53	350	Mature	..	261, 287, 296, 355, 396, 378	Golden Fern's Viscount
Melrose Vanilla 28th ..	38575	3.6.32	10½	4,518	6·43	290·29	230	Jr. 2	..	..	Melrose Clementine 2nd's Masterpiece
Xavier College, Kew, Jersey (2).											
Kara Tex	34169	2.4.32	17	5,694	5·44	309·90	230	Jr. 2	..	..	Karalee Volunteer
Woorayl Springtime ..	C.R.	1.6.32	14	5,441	5·56	302·71	230	Jr. 2	..	..	Butter King of Yaralla
Young, G. T., Sedgwick, Jersey (3).											
Preston Star Princess ..	33975	31.3.32	27	9,855	4·79	472·18	270	Jr. 3	..	323	Preston Merry Lad
Preston Sundew ..	38593	10.4.32	20½	7,338	5·15	377·74	230	Jr. 2	..	..	Kyora Mayflower's Fancy
Preston Fancy Jewel ..	Vol. 20	25.4.32	12½	4,866	5·99	291·47	230	Jr. 2	..	..	Kyora Mayflower's Fancy

Note.—Tavistock Clarionette 2nd, owner A. Cox, Kyabram, was incorrectly published in the Second Quarterly Report, March, 1933.

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No. 1—Pure Cosh World's Record Strain.
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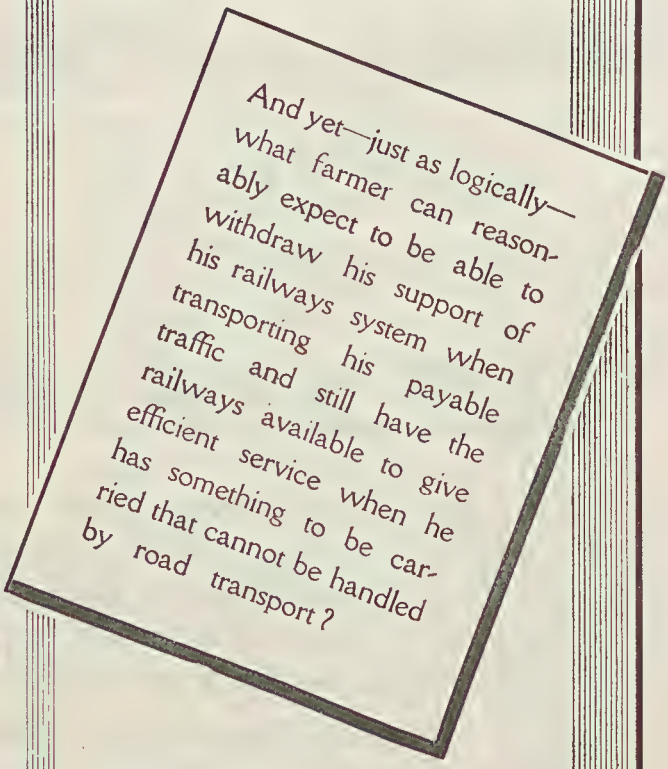
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Year.	Number of Cows in Test.	Milk.	Test.	Butter Fat.	Butter Fat lb. with allowances for Heifers.
		lb.	%	lb.	
1927-28	42	6,911	4·55	314·61	411·21
1928-29	41	8,547	4·23	361·85	418·33
1929-30	34	8,782	4·40	381·99	443·11
1930-31	41	7,781	4·41	338·11	442·75
1931-32	37	7,342	4·45	323·79	399·31*
Average for five years 195 *cows*		7,847	4·38	343·00	422·70

* In 1931-32 the allowances for heifers were reduced. Under the old scale the average would have been 413·63 lb.

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The prices quoted are based on the butter-fat production of the dam at the rate of 1/- per lb., except in the case of progeny of heifers without completed test, the price then being 10 guineas.

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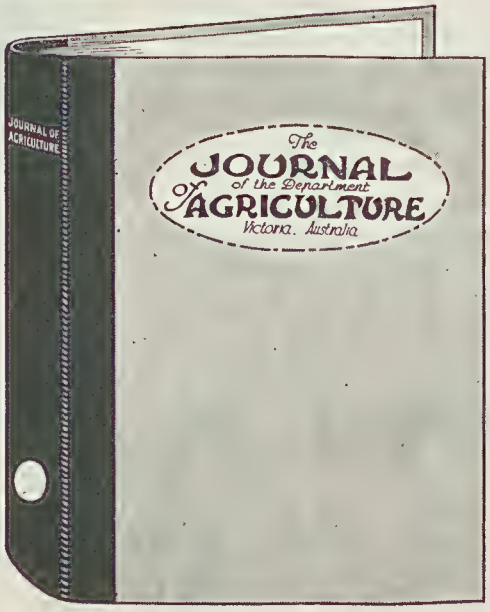

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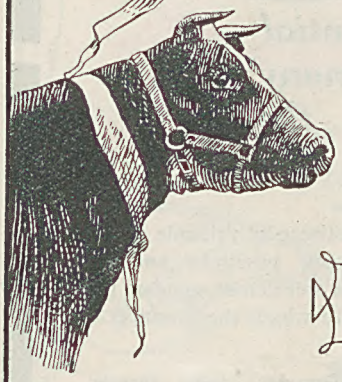

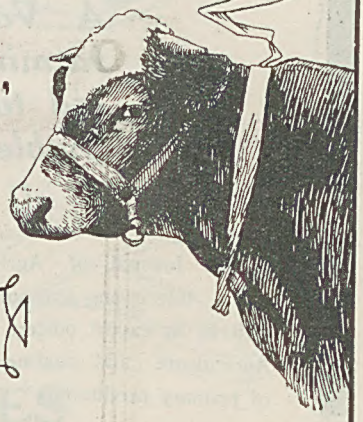

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1. VICTORIA DANCER (Friesian Herd Book of Australia)
Born 16th July, 1928
Sire: VICTORIA JOYOUS MERCEDES (985) *Dam:* VICTORIA CORUSCATE (1419)
Price: 20 Guineas f.o.r. RUTHERGLEN
(This bull is at the State Farm, Rutherglen)

2. BULL CALF - - - Dropped 16th October, 1932.
Sire: VICTORIA JOYOUS MERCEDES (985) *Dam:* VICTORIA KEEL ROW (3260)
Price: 16 Guineas

3. BULL CALF - - - Dropped 12th November, 1932.
Sire: VICTORIA DOUBLE TOP (1354) *Dam:* VICTORIA ILKEDES (3763)
This is Victoria Ilkedes' first calf, and the record of her dam (Victoria Ilka Patch) on her first calf is 10,243 lbs. milk, 3·15% test, 322 lbs. butter-fat. *Being a heifer's bull calf,*
Price: 10 Guineas f.o.r. WERRIBEE

4. BULL CALF - - - Dropped 29th March 1933.
Sire: VICTORIA JOYOUS MERCEDES (985) *Dam:* VICTORIA TINKLE BELL (3266)
Price: 23 Guineas

5. BULL CALF - - - Dropped 19th December, 1932.
Sire: VICTORIA JOYOUS MERCEDES (985) *Dam:* VICTORIA TOP PATCH (2634)
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